

BLASTWAVE 480 SC

HERBICIDE

For weed control in: artichokes (globe), blackberry/raspberry, broccoli/cabbage/cauliflower, cacao, citrus (nonbearing), coffee, conifer (seedbeds, transplants, container stock) and selected deciduous trees, corn, cotton, cottonwood, eucalyptus, fallow bed, (cotton/soybeans), fallow land, garbanzo beans, garlic, grapes, guava (Hawaii only), horseradish, jojoba, mint, onions, onions grown for seed, papaya (Hawaii only), soybeans, taro, treefruit/nut/vine crops, and other listed crops.

ACTIVE INGREDIENT:

Oxyfluorfen: 2-chloro-1-(3-ethoxy-4-nitrophenoxy) 4-(trifluoromethyl) **% BY WT.** 40.3%

OTHER INGREDIENTS **59.7%**

TOTAL **100%**

Contains 4.0 pounds active ingredient per gallon

Shake Well Before Using

KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF ON SKIN OR CLOTHING:	- Take off contaminated clothing. - Rinse skin immediately with plenty of water for 15-20 minutes. - Call a poison control center or doctor for treatment advice.
IF IN EYES:	- Hold eye open and rinse slowly and gently with water for 15-20 minutes. - Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. - Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	- Call a poison control center or doctor immediately for treatment advice. - Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to by a poison control center or doctor. DO NOT give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center, or doctor or going for treatment. - For medical emergencies, call the poison control center at 1-800-222-1222. - For general information about this product, contact the National Pesticides Information Center (NPIC) at 1-800-858- 7378, Monday through Friday, 8 AM to 12 PM PST, or at http://npic.orst.edu .	

See inside booklet for additional PRECAUTIONARY STATEMENTS

Manufactured for:

Longwind CropScience USA LLC

8 THE GREEN, STE A, DOVER, Kent, DE, 19901

EPA Reg. No. :103087-11

EPA Est. No. : 91233-CHN-001

NET CONTENTS: ☐ 1 Gal ☐ 2.5 Gal

☐ 10 Gal ☐ 25 Gal

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear long-sleeved shirt and long pants, socks, shoes, and (waterproof or chemical-resistant) gloves. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders and applicators using engineering controls (see Engineering Controls requirements below) must wear:

- Long- sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves such as Barrier Laminate, Butyl Rubber $\geq$ 14 mils, Nitrile Rubber $\geq$ 14 mils, Neoprene Rubber $\geq$ 14 mils, Natural Rubber $\geq$ 14 mils, Polyethylene, Polyvinyl Chloride (PVC) $\geq$ 14 mils or Viton $\geq$ 14 mils
- Chemical- resistant apron when mixing and loading

All other mixers, loaders, applicators and other handlers must wear:

- Coveralls over long- sleeved shirt and long pants
- Chemical- resistant footwear plus socks
- Waterproof gloves such as Barrier Laminate, Butyl Rubber $\geq$ 14 mils, Nitrile Rubber $\geq$ 14 mils, Neoprene Rubber $\geq$ 14 mils, Natural Rubber $\geq$ 14 mils, Polyethylene, Polyvinyl Chloride (PVC) $\geq$ 14 mils or Viton $\geq$ 14 mils
- Chemical- resistant headgear when exposed overhead
- Chemical- resistant apron when exposed to the concentrate
- Goggles or face shield

PHYSICAL AND CHEMICAL HAZARDS:

Do not mix or allow coming in contact with oxidizing agent. Hazardous Chemical reaction may occur.

USER SAFETY REQUIREMENTS

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(f)].

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d-e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

1. Remove clothing/ PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
2. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.



ENGINEERING CONTROLS

Mixers and loaders supporting aerial applications to follow land or ground applications to corn, cotton, or soybeans must use a closed system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides 40 CFR 170.607(d), and must:

- Wear the personal protective equipment required above for mixers/ loaders using engineering- controls
- Wear protective eyewear if the system operates under pressure, and
- Be provided and have immediately available for use in case of emergency, such as a broken package, spill, or equipment breakdown, coveralls and chemical-resistant footwear.

Handlers performing applications to corn must use an enclosed cab that meets the definition in the Worker Protection Standard for agricultural pesticides 40 CFR 170.607(e) for dermal protection, in addition, such applicators must:

- Wear the personal protective equipment required above for applicators using engineering controls
- Be provided and must have immediately available for use in an emergency when they must exit the cab in the treated area: coveralls, chemical-resistant gloves, chemical-resistant footwear, and chemical-resistant headgear, if overhead exposure.
- Take off any PPE that was worn in the treated area before reentering the cab, and
- Store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates and organisms. **DO NOT** apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. See Directions for Use for additional restrictions. **DO NOT** contaminate water when disposing of equipment wash water.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours, except for the following:

- Onions, garlic and horseradish: The REI is 48 hours
- Conifer seedlings: The REI is 3 days
- Conifer trees: The REI is 6 days

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material,
- Shoes plus socks
- Protective eyewear



NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

DO NOT enter or allow others to enter until sprays have dried.

PRODUCT INFORMATION

BLASTWAVE 480 SC herbicide is a selective herbicide for postemergence and preemergence residual weed control in labeled crops. Directions provided in the General Use Information section of this label apply to all uses of this product.

Use directions for listed crops are provided in the Crop-Specific Use Directions section of this label.

USE RESTRICTIONS

The following use restrictions apply to all labeled uses of **BLASTWAVE 480 SC** (Refer to directions for use for individual crops for additional crop-specific use restrictions):

- The annual maximum application rate for all food/feed crops is 1.5 lbs ai / Acre.
- **DO NOT** contaminate irrigation water or water used for domestic purposes.
- **DO NOT** use any plants treated with **BLASTWAVE 480 SC** for feed or forage.
- **BLASTWAVE 480 SC** must be applied only by ground application equipment except as otherwise allowed or directed in specific use directions.
- **DO NOT** apply when weather conditions favor drift. Avoid drift to all non-target areas. **BLASTWAVE 480 SC** is phytotoxic to plant foliage.
- **DO NOT** treat ditch banks or waterways with **BLASTWAVE 480 SC**.
- **BLASTWAVE 480 SC** is phytotoxic to plant foliage. Avoid accidental spray contact or drift with established crops.
- **DO NOT** apply when weather conditions favor drift to non-target areas.
- Some labeled crops are tolerant to over-the-top applications of **BLASTWAVE 480 SC** if applied during dormancy.
- **DO NOT** make over-the-top applications unless specifically allowed in crop-specific use directions.
- **DO NOT** apply **BLASTWAVE 480 SC** in enclosed greenhouses as foliage injury will result.

MANDATORY SPRAY DRIFT DIRECTIONS

AERIAL APPLICATIONS:

- **DO NOT** release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a coarse or coarser droplet size (ASABE S572.1)
- The boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- When wind speeds are 5 – 10 mph maintain a minimum downwind buffer zone of at least ½ mile from all crops and desirable vegetation, except the following:
 - o 150 feet from dormant tree fruit/nut/vine crops and overwintering sugar beets.
 - o 650 feet from garlic, jojoba, legumes, onions, pastures, small grains, seedling sugar beets, and non-targeted vegetable fallow beds.
- For upwind and side borders, maintain buffer zone of 150 feet from any non-targeted vegetable fallow bed, crop, or desirable vegetation.

GROUND BOOM APPLICATIONS:

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a coarse or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.



BOOM-LESS GROUND APPLICATIONS:

- Applicators are required to use a coarse or coarser droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest

control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

CONTROLLING DROPLET SIZE – GROUND BOOM

- Volume: Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure: Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle: Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

CONTROLLING DROPLET SIZE: AIRCRAFT

- Adjust Nozzles: Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT: Ground Boom

- Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT: Aircraft

- Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS:

- Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY:

- When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS:

- Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND:

- Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

IMPORTANT: TREATED SOIL MUST BE THOROUGHLY INCORPORATED TO A DEPTH OF 4 INCHES AFTER HARVEST (OR ABANDONING) OF THE TREATED CROP BUT PRIOR TO PLANTING OF THE ROTATIONAL CROP. FAILURE TO ACHIEVE THIS THOROUGH AND COMPLETE INCORPORATION OR TO FOLLOW THE REQUIRED MINIMUM PLANT-BACK INTERVAL MAY RESULT IN CROP INJURY, STAND REDUCTION AND/OR VIGOR REDUCTION OF THE PLANT-BACK CROP. See specific fallow bed labeling regarding crop planting information for applicators of **BLASTWAVE 480 SC** that are made to a fallow bed or fallow field.

HERBICIDE RESISTANCE MANAGEMENT

Oxyfluorfen is a Group 14 herbicide that inhibits protoporphyrinogen oxidase (PPO). Fields should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective.

Fields should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

Report any incidence of non-performance of this product against a particular weed species to your **Longwind Crops Science USA LLC** representative. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.

BEST MANAGEMENT PRACTICES

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices including mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.
- To the extent possible do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.
- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than two applications of this or any other herbicide with the same mechanism of action within a single growing year unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.

Contact your local **Longwind Crops Science USA LLC** sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.

ROTATIONAL CROP RESTRICTIONS

- **DO NOT** rotate to small-grain crops (includes barley, buckwheat, corn, pearl millet, proso millet, oats, popcorn, rice, rye, sorghum, triticale, wheat, wild rice) within 10 months following an application of **BLASTWAVE 480 SC**.
- **DO NOT** direct seed any crop, other than a crop labeled for use with **BLASTWAVE 480 SC**, within 60 days following application.
- **DO NOT** transplant seedlings of crops, other than crops labeled for use with **BLASTWAVE 480 SC**, within 30 days following application.
- **IMPORTANT:** Unless otherwise specified elsewhere in this label or **Longwind Crops Science USA LLC** supplemental labels or product bulletins, treated soil must be thoroughly mixed to a depth of 4 inches after harvest (or abandoning) of the treated crop but prior to planting of the rotational crop. Failure to achieve thorough and complete mixing or to follow the required minimum plant-back interval may result in crop injury, stand reduction and/or vigor reduction of the plant-back crop.

See specific fallow bed labeling instructions for required treatment-to-planting intervals following application of **BLASTWAVE 480 SC** to fallow beds or fallow fields.



WEEDS CONTROLLED

<u>Common Name</u>	<u>Scientific Name</u>
ageratum	Ageratum conyzoides
amaranth, spiny	Amaranthus spinosus
balsamapple	Momordica charantia
barnyardgrass (watergrass) [†]	Echinochloa crus-galli
bedstraw, catchweed	Galium aparine
bittercress, lesser	Cardamine oligosperma
bluegrass, annual [†]	Poa annua
buckwheat, wild	Polygonum convolvulus
burclover	Medicago hispida
buttercup, smallflower	Ranunculus abortivus
buttonweed	Borreria laevis
camphorweed	Heterotheca subaxillaris
canarygrass (annual)	Phalaris canariensis
carpetweed	Mollugo verticillata
cheeseweed (malva)	Malva parviflora
clover, red [†]	Trifolium pratense
clover, white [†]	Trifolium repens
cocklebur, common	Xanthium pensylvanicum
crabgrass, large (hairy) [†]	Digitaria sanguinalis
crotalaria	Crotalaria species
croton, tropic	Croton glandulosus
cudweed, narrowleaf	Gnaphalium falcatum
eveningprimrose, cutleaf	Oenothera lacinata
fiddleneck, coast [†]	Amsinckia intermedia
filaree, broadleaf	Erodium botrys
filaree, redstem	Erodium cicutarium
filaree, whitestem	Erodium moschatum
fireweed (from seed)	Epilobium angustifolium
flixweed	Descurainia sophia
foxtail, giant [†]	Setaria faberi
foxtail, green	Setaria viridis
foxtail, yellow	Setaria lutescens
geranium, Carolina	Geranium carolinianum
goosegrass [†]	Eleusine indica
groundcherry, cutleaf	Physalis angulata
groundcherry, Wright	Physalis wrightii
groundsel, common	Senecio vulgaris
henbit	Lamium amplexicaule
horseweed (maretail)	Conyza canadensis
jimsonweed	Datura stramonium
johnsongrass, seedling	Sorghum halepense
knotweed, prostrate	Polygonum aviculare
ladythumb (smartweed)	Polygonum persicaria

lambsquaters, common	<i>Chenopodium album</i>
lettuce, prickly (china lettuce)	<i>Lactuca serriola</i>
mallow, little (malva)	<i>Malva parviflora</i>
mayweed (dog fennel)	<i>Anthemis cotula</i>
minerslettuce	<i>Montia perfoliata</i>
morningglory, species, annual	<i>Ipomoea species</i>
morningglory, ivyleaf [†]	<i>Ipomoea hederacea</i>
morningglory, tall [†]	<i>Ipomoea purpurea</i>
mustard, black	<i>Brassica nigra</i>
mustard, blue (purple mustard)	<i>Chorispora tenella</i>
mustard, common yellow	<i>Brassica campestris</i>
mustard, hedge	<i>Sisymbrium officinale</i>
mustard, tumble (Jim hill mustard)	<i>Sisymbrium altissimum</i>
mustard, wild	<i>Brassica kaber</i>
nettle, burning	<i>Urtica urens</i>
nightshade, American black	<i>Solanum americanum</i>
nightshade, black	<i>Solanum nigrum</i>
nightshade, hairy	<i>Solanum sarrachoides</i>
oats, wild	<i>Avena fatua</i>
orach, red	<i>Atriplex rosea</i>
oxalis (Bermuda buttercup)	<i>Oxalis pes-caprae</i>
panicum, fall	<i>Panicum dichotomiflorum</i>
pepperweed, Virginia	<i>Lepidium virginicum</i>
pepperweed, yellowflower	<i>Lepidium perfoliatum</i>
pigweed, prostrate	<i>Amaranthus blitoides</i>
pigweed, redroot	<i>Amaranthus retroflexus</i>
pimpernel, scarlet	<i>Anagallis arvensis</i>
poinsettia, wild	<i>Euphorbia heterophylla</i>
puncturevine	<i>Tribulus terrestris</i>
purslane, common	<i>Portulaca oleracea</i>
pusley, florida	<i>Richardia scabra</i>
ragweed, common	<i>Ambrosia artemisiifolia</i>
redmaids	<i>Calandrinia caulescens</i>
rocket, London	<i>Sisymbrium irio</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
sage, lanceleaf	<i>Salvia reflexa</i>
sandbur, field	<i>Cenchrus incertus</i>
sandspurry, red	<i>Spergularia rubra</i>
sesbania, hemp	<i>Sesbania exaltata</i>
shepherdspurse [†]	<i>Capsella bursa-pastoris</i>
sicklepod	<i>Cassia obtusifolia</i>
sida, prickly (teaweed)	<i>Sida spinosa</i>
signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
sorrel, red (from seed)	<i>Rumex acetosella</i>
sowthistle, annual	<i>Sonchus oleraceus</i>

speedwell, birdseye	Veronica persica
spurge, garden	Euphorbia hirta
spurge, prostrate ^{††}	Euphorbia supina
spurge, spotted ^{††}	Euphorbia maculata
spurry, corn	Spergula arvensis
tansymustard	Descurainia pinnata
thistle, bull ^{††}	Cirsium vulgare
thistle, Russian	Salsola kali
velvetleaf	Abutilon theophrasti
witchgrass	Panicum capillare
witchweed	Striga asiatica
woodsorrel, common yellow ^{††}	Oxalis stricta

[†] Highest rate and/or multiple applications may be required for acceptable control.

^{††} Preemergence control only

APPLICATION METHODS AND RECOMMENDED CULTURAL PRACTICES

PREEMERGENCE WEED CONTROL

Apply the specified rate in a broadcast spray volume of 15 or more gallons of water per acre using calibrated spray equipment capable of uniform application to the soil surface. Seedling weeds are controlled as they come in contact with the soil-applied herbicide during emergence. Preemergence weed control is most effective when **BLASTWAVE 480 SC** is applied to soil surfaces that are clean (free of crop or weed residues or clippings) and weed-free. Prior to application, weed or crop residues must be removed by thorough incorporation into the soil using tillage equipment or by blowing the area to be treated. At least 0.25 inch of irrigation or rainfall is required to activate **BLASTWAVE 480 SC** and must occur within 3 or 4 weeks after application. For optimum results, **BLASTWAVE 480 SC** needs be applied to prepared beds or soil surfaces that will be left undisturbed during the time period for which weed control is desired. Cultural practices that disturb or redistribute surface soil following treatment with **BLASTWAVE 480 SC** such as cutting water furrows will reduce weed control effectiveness.

Application Rates and Rate Ranges: Where rate ranges are given, use the lower rate in the rate range on coarse texture soils with less than 1% organic matter and lighter weed infestations. Use higher rates in the rate range on medium to fine texture soils, soils containing greater than 1% organic matter, heavy weed infestations, or for extended residual preemergence weed control.

POSTEMERGENCE WEED CONTROL

Apply the specified rate in a broadcast spray volume of 20 or more gallons of water per acre (a minimum 10 gallons if applying **BLASTWAVE 480 SC** in tank mix with glyphosate). Because **BLASTWAVE 480 SC** is a contact herbicide, complete and uniform coverage of weed foliage is essential for optimum postemergence control. Increase the spray volume to ensure complete and uniform coverage as weed height and density increases or in the presence of heavy trash (weed or crop residue). Postemergence applications of **BLASTWAVE 480 SC** are most effective when made to weeds at the seedling stage. Applications made later than the 4-inch or 4 leaf stage may result in partial control or suppression. Postemergence applications must be made to seedling grasses not exceeding the 2-leaf stage. The addition of 0.25% v/v (2 pints per 100 gallons of spray) of an 80% active nonionic surfactant, labeled for application to growing crops, will enhance herbicidal effectiveness in controlling emerged weeds.

Postemergence Application Rates: Where a rate range is given, use a higher rate in the rate range for heavy weed infestations, weeds in advanced stages of growth or for extended residual preemergence weed control following control of existing emerged weeds.

GROUND APPLICATION

Ground Broadcast: Apply **BLASTWAVE 480 SC** using conventional low-pressure ground spray equipment with flat fan spray nozzles. Follow manufacturer's recommendation for spraying pressure and boom height. An off-center (OC) nozzle positioned at the end of the boom may be desired. Check calibration of spray equipment before each use.

Directed Sprays: Apply **BLASTWAVE 480 SC** as a coarse low-pressure spray in a spray volume of 20 or more gallons of spray per acre (broadcast basis). Follow manufacturer's recommendations for nozzle spacing and operating pressure. Spray must be directed toward the soil at the base of the crop, in row crops, use a minimum of 2 flat fan nozzles per row (one on each side) and for optimum spray coverage use 4 flat fan nozzles per row (two on each side). The 2 forward nozzles must point forward and downward while the rear nozzles must point to the rear and downward. With either sprayer system, nozzles must be adjusted to cover the weed foliage but minimize contact with the crop. Do not apply with hollow cone nozzles.



IMPORTANT: BLASTWAVE 480 SC is a contact herbicide. Contact of sprays or drift with foliage or green stems can cause severe crop injury. Use directed sprays and spray shields and/or leaf lifters as necessary to minimize contact of spray or drift with crop foliage or stems. Young green stems of woody plants are also susceptible to injury from spray contact. Potential for injury to woody stems diminishes with loss of green color and the development of relatively impervious non-living corky tissue (bark) on the surface of the stem.

Band Application: Application rates listed in this label are for broadcast application. For band application, the rate per broadcast acre must be reduced according to the following formula:

$$\frac{\text{Band Width (in inches)}}{\text{Row Width (in inches)}} \times \frac{\text{Rate per Acre}}{\text{Broadcast Acre}} = \frac{\text{Amount Needed per Acre}}{\text{for Banded Application}}$$

SPOT APPLICATION

For spot application, apply sprays uniformly to soil for preemergence weed control or on a spray-to-wet basis for postemergence weed control. Mix the required amount of **BLASTWAVE 480 SC** with the specified amount of water. For preemergence weed control, use one-half to one gallon of spray per 1000 sq ft. For postemergence weed control use a minimum of 1 gallon of spray per 1000 sq ft and add an 80% nonionic surfactant at the rate of 0.5 fl oz (1 Tbs) per gallon of spray. If making spot applications within an established crop, use coarse low-pressure sprays and direct the spray to the soil beneath the plants. To avoid crop injury, do not allow spray to contact leaves and stems of herbaceous plants or leaves or green stems of woody plants.

Amount of BLASTWAVE 480 SC Required to Treat 1000 sq ft at Specified Application Rate					
0.25 pt/acre	0.5 pt/acre	1.0 pt/acre	1.5 pt/acre	2.0 pt/acre	4.0 pt/acre
0.1 fl oz (2.75 ml)	0.2 fl oz (5.5ml)	0.4 fl oz (11 ml)	0.55 fl oz (16.5ml)	0.75 fl oz (22 ml)	1.5 fl oz (44 ml)

1 pint = 16 fl oz; 1 fl oz = 29.6 (30) ml

AERIAL APPLICATION

Use aerial boom equipment designed for use with herbicides and a minimum spray volume of 10 gallons per acre (5 gallons per acre if tank mixed with glyphosate). **DO NOT** aerially apply **BLASTWAVE 480 SC** unless crop-specific use directions specifically allow and provide directions for aerial application.

AVOID DRIFT: Exercise extreme care to avoid herbicide contact with any desirable dormant or non-dormant crop, plant, tree or vegetation as severe injury may result. Extreme care must be exercised to prevent spray drift that could result in damage to other crops or desirable vegetation. Adhere to the following guidelines when aerial applications are to be made.

CHEMIGATION INSTRUCTIONS

DO NOT apply this product through any irrigation system unless the instructions for chemigation are followed. **DO NOT** apply **BLASTWAVE 480 SC** through chemigation equipment unless chemigation is allowed by Crop-Specific Use Directions.

Apply this product only through sprinkler (center pivot, solid set, portable lateral; or low-volume (micro-sprinkler), drip (trickle), or flood (basin) irrigation systems. Refer to use directions for specific crops for instructions as to which type of irrigation system may be used. Do not apply this product through any other type of irrigation system.

- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- **DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

SPRINKLER CHEMIGATION (FOLIAR SPRAY USES)

For sprinkler irrigation, sufficient water must be applied at the beginning of the irrigation period to insure uniform wetting of the plant and/or soil surfaces. Meter **BLASTWAVE 480 SC** into the sprinkler irrigation system at a continuous uniform rate during the middle 1/3 of the irrigation period to allow for uniform distribution to target weeds and/or soil surface. Continue irrigation during the final 1/3 of the irrigation period to insure proper flushing of the irrigation system. During sprinkler irrigation, sufficient water must be applied to insure water penetration to a depth of two inches.

AVOID DRIFT: Extreme care must be exercised to prevent spray drift that could result in damage to other crops or desirable vegetation. Use the following guidelines when applications of **BLASTWAVE 480 SC** are made through sprinkler irrigation equipment:

- **DO NOT** apply when the wind direction is not stable, when inversion conditions exist, or when wind velocity exceeds 10 mph.
- When wind speeds are 5 mph or less, maintain a minimum downwind buffer zone of at least ½ mile from all crops and desirable vegetation, except for the following:
 - o Maintain a minimum downwind buffer of:
 - o 150 feet from dormant treefruit, dormant vines and overwintering sugar beets.
 - o 650 feet from garlic, jojoba, legumes, onions, pastures, seedling sugar beets and vegetable fallow beds.
 - o When wind speeds are between 5 and 10 mph, downwind buffer zones in excess of those listed above are suggested.
 - o For upwind and side borders, maintain a minimum buffer zone of 150 feet from any vegetable fallow bed, crop, or desirable vegetation.

To apply a pesticide using sprinkler chemigation, the chemigation system must meet the following specifications:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, including a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

FLOOD (BASIN) CHEMIGATION (SOIL DRENCH USES)

BLASTWAVE 480 SC must be continuously metered into the water during the entire irrigation period. Agitation in the pesticide supply tank is suggested. Best weed control results from **BLASTWAVE 480 SC** applied through flood (basin) irrigation systems are obtained when a uniform distribution and flow of irrigation water is maintained over level land.

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain functional automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

DRIP (TRICKLE) CHEMIGATION (SOIL DRENCH USES)

To achieve optimum distribution of **BLASTWAVE 480 SC** in the soil surface, meter **BLASTWAVE 480 SC** at a continuous uniform rate during the middle 1/3 of the irrigation period. For best results, **BLASTWAVE 480 SC** must be uniformly distributed across the wetted area to help reduce the "ring effect" of weed escapes. Continue irrigation during the final 1/3 of the irrigation period to insure proper flushing of the irrigation system.

To apply a pesticide using drip (trickle) Chemigation, the Chemigation system must meet the following specifications:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain . appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pipe and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

CHEMIGATION CALIBRATION: FOR LOW-VOLUME SPRINKLERS (MICRO-SPRINKLERS) AND DRIP (TRICKLE) IRRIGATION SYSTEMS

Calculation of use rate is based on wetted area around emitters - NOT on grove acres. To determine correct amount of **BLASTWAVE 480 SC**, use the following formula:

- 1: Treated area per each emitter = A
 $A = 3.14 \times (\text{radius} \times \text{radius})$

Example: If the average distance from emitter to perimeter of wetted area measured at the soil surface is 13 inches, then
 $A = 3.14 \times (13'' \times 13'')$
 $A = 3.14 \times (169'')$
 $A = 530.7 \text{ square inches}$

2. The area in square feet wet in each acre = B
 $B = \frac{A \times \text{emitters/acre}}{144}$

Example: If there are 300 emitters per acre, then
 $B = \frac{530.7 \times 300}{144} = B = 1105.6 \text{ square feet wetted per acre}$

3. The total area (in square feet) wet by your system = C
 $C = B \times \text{acres covered by system}$

Example: If the system covers 20 acres, then
 $C = 1105.6 \text{ square feet per acre} \times 20 \text{ acres}$
 $C = 22,112 \text{ square feet wetted by system}$

4. Amount of **BLASTWAVE 480 SC** to inject = S
Rate per treated acre of **BLASTWAVE 480 SC** = R
 $S = \frac{C \times R}{43,560} = \text{pints of BLASTWAVE 480 SC}$

Example: If the desired application rate per treated acre is 1 quart of **BLASTWAVE 480 SC**, then
 $S = \frac{22,112 \times 1.0}{43,560} = S = 0.507$ pints of **BLASTWAVE 480 SC** should be injected into system.

Note: Select the proper rate based on weed spectrum and desired length of control (See Rate Ranges section below).

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

If the Chemigation system is connected to a public water supply, the following conditions must also be met:

- Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from a point of pesticide introduction. As an option to the RPZ, the water from the public water system must be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

MIXING DIRECTIONS

Shake well before use. Fill the spray tank at least one-third full of clean water. With the pump and agitator running, add the specified amount of herbicides to the spray tank. The order of addition to the spray tank must be (1) wettable powders, (2) flowables and (3) soluble liquids. Complete filling of the spray tank with water.

Use of Surfactants: For all applications of **BLASTWAVE 480 SC** where postemergence weed control is desired (except garlic and onions), add a minimum of 2 pints of 80% active nonionic surfactant (cleared for application to growing crops) per each 100 gallons of spray. The addition of 4 pints of nonionic surfactant is recommended to enhance postemergence activity when hard water (greater than 600 ppm) is used. Maintain agitation until spraying is completed.

Tank Mixtures:

Precautions:

- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Restrictions:

- DO NOT** exceed specified application rates. Do not tank mix this product with another pesticide that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of this product and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jells, oily films or layers, or other precipitates, it is not compatible and the tank mix combination must not be used.

Sprayer Clean-up: Thoroughly flush spray equipment (tank, pump, hoses and boom) with clean water before and after each use. Residues of **BLASTWAVE 480 SC** remaining in spray equipment may damage other crops. The addition of a non-ionic surfactant to equipment flushing waters at the rate of 1 quart per 100 gallons is recommended to aid in removal of residues of **BLASTWAVE 480 SC**.

CROP-SPECIFIC USE DIRECTIONS

ARTICHOKE (GLOBE) Post-Directed Spray Applications

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 3 (1 - 1.5 lbs AI)	Application Method: Apply as a directed spray to the soil surface between the rows and at the base of artichoke plants in a minimum spray volume of 40 gallons per acre. Timing to Crop: Apply after completion of ditching operations. Separate applications of up to 2 pint/acre may be made 8 to 10 weeks apart or a single application of up to 3 pt/acre may be made. Timing to Weeds: Preemergence up to 8 leaf stage.
Restrictions: - Application of BLASTWAVE 480 SC to artichoke plantings must be delayed a minimum of 60 days after cutting back or transplanting. DO NOT apply over-the-top. Contact with direct spray or drift will cause injury to artichoke fronds or severe injury to buds or flowers. DO NOT apply more than 3 pints (1.5 lbs AI) of BLASTWAVE 480 SC per acre per year as a result of a single application or multiple applications. DO NOT apply more than 3 pints (1.5 lbs AI) in a single application. DO NOT make more than 2 applications per year when using reduced application rates. DO NOT make second application within 8 weeks of first. - Preharvest Interval: DO NOT apply within 5 days of harvest.		

Key Weeds Controlled

Preemergence	Postemergence
cheeseweed (malva) groundsel, common lambquarters, common mustard, common yellow oxalis (bermuda buttercup) [†] shepherdspurse Sowthistle, annual	cheeseweed (malva) groundsel, common mustard, common yellow nettle, burning oxalis (bermuda buttercup) shepherdspurse sowthistle, annual

[†] Suppression

BLACKBERRY AND RASPBERRY PRIMOCANE SUPPRESSION (For Use only in Oregon and Washington)

Crop	Rate (Pint/acre) [†]	Specific Use Directions
Blackberry	0.8 – 1.6 (0.4 - 0.8 lbs AI)	Apply BLASTWAVE 480 SC in a minimum spray volume of 50 gallons per broadcast acre to primocanes which have emerged 4 to 6 inches. Proper timing of the spray application is essential. Application to primocanes greater than 6 inches may result in unacceptable cane growth (bent canes).
Raspberry	0.38 – 1.5 (0.19 – 0.38 lbs AI)	The highest use rate and/or additional applications may be required to achieve acceptable suppression of vigorous early season primocane growth. On shorter season plantings (in higher elevations) or plantings grown on light (sandy) textured soils, reduced rates may provide acceptable primocane suppression. Primocane suppression from BLASTWAVE 480 SC may last from 3 to 6 weeks, therefore, timing, rate, and number of applications must be adjusted according to plant health and vigor and the desired length of primocane suppression. The addition of 2 pints of an 80% active nonionic surfactant cleared for application to growing crops) per 100 gallons of spray solution is advised.

Precautions:

- Occasionally, after the use of **BLASTWAVE 480 SC**, a spotting; crinkling or flecking may appear on the leaves of the fruiting canes. Some blackberry varieties may be more sensitive than others. This is to be expected and does not affect performance or yield. Leaves of the fruiting canes, which receive direct or indirect (drift) spray contact will be injured.

Crop-Specific Restrictions:

- DO NOT** use **BLASTWAVE 480 SC** on blackberry plantings which are weak or under stress, due to temperature, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture as primocane growth may be insufficient for the following year's crop.
- Chemigation:** **DO NOT** apply this product through any type of irrigation system.
- BLASTWAVE 480 SC** must be applied only by ground application equipment.
- BLASTWAVE 480 SC** is phytotoxic to plant foliage. Avoid accidental spray contact or drift with established crops.
- DO NOT** apply when weather conditions favor drift to non-target areas.
- DO NOT** treat ditch banks or waterways with **BLASTWAVE 480 SC** or contaminate water used for irrigation or domestic purposes.
- DO NOT** make follow up applications within 8 weeks of previous application when using reduced application rates.

Blackberry

- DO NOT** apply more than 1.6 pints (0.8 lb. active) broadcast per acre of **BLASTWAVE 480 SC** in a single application
- DO NOT** apply more than a total of 3 pints (1.5 lbs. active) broadcast per acre per year.
- DO NOT** apply more than four (4) applications per year when using reduced application rates.
- DO NOT** apply **BLASTWAVE 480 SC** within 15 days of harvest.

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Raspberry

- **DO NOT** apply more than 1.5 pints (0.75 lb. active) broadcast per acre of **BLASTWAVE 480 SC** in a single application.
- **DO NOT** apply more than a total of 2.5 pints (1.25 lbs. active) broadcast per acre per year
- **DO NOT** apply more than two (2) applications per year when using reduced application rates.
- **DO NOT** apply **BLASTWAVE 480 SC** within 50 days of harvest.

† Dosages listed are for broadcast application. See Ground Application section of this label for conversion to band application rates.

BLACKBERRY PRIMOCANE SUPPRESSION (For Use Only in Oregon) During Nonbearing Year of Alternate Year

Blackberry Production

Crop	Rate (Pint/acre) [†]	Specific Use Directions
Blackberry	0.5 - 1.0 (0.25 - 0.5 lbs AI)	Apply BLASTWAVE 480 SC to the unwanted vegetative growth at the base of the blackberry plants. The addition of 2 pints of an 80% active nonionic surfactant cleared for application to growing crops) per 100 gallons of spray solution is advised. BLASTWAVE 480 SC must be applied after a sufficient number of canes have been bundled and trained to the trellis wire. The first application is made when the primocanes to be saved have reached either the bottom wire or approximately 4 feet in length (typically early to mid-June). BLASTWAVE 480 SC must be directed to the lower portion of the canes to reduce unwanted lateral growth and excessive foliage that normally develops at the base of each plant. The primocanes to be saved must be trained at an adequate height above the directed spray. A second application (typically mid-July to mid-September after the primocanes are trellised and wrapped on wire) may be applied to suppress new growth, leaves and lateral spurs that develop at the base of the plant. Application timing will vary according to location and vigor of planting. Spray coverage is essential for optimum activity on unwanted vegetation. BLASTWAVE 480 SC must be applied at a minimum of 30 gallons of water per broadcast acre in a 3-foot band directed towards the lower portion of the blackberry canes in the primocane row. Use a low-pressure spray system (suggested 30 to 60 psi). Mounted nozzles are to be used to deliver the spray solution. Spray equipment must be calibrated carefully before each use.

Precautions:

- Occasionally, after the use of **BLASTWAVE 480 SC**, a spotting; crinkling or flecking may appear on the leaves of the fruiting canes. Some blackberry varieties may be more sensitive than others. This is to be expected and does not affect performance or yield. Leaves of the fruiting canes, which receive direct or indirect (drift) spray contact will be injured.

(continued)

Crop-Specific Restrictions:

- **DO NOT** use **BLASTWAVE 480 SC** on blackberry plantings that are weak, or under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.
- Chemigation: **DO NOT** apply this product through any type of irrigation system.
- **BLASTWAVE 480 SC** must be applied only by ground application equipment. **BLASTWAVE 480 SC** is phytotoxic to plant foliage.
- Avoid accidental spray contact or drift with established crops. **DO NOT** apply when weather conditions favor drift to non-target areas.
- **DO NOT** apply more than 2 pints (1.0 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- **DO NOT** apply more than 4 pints (2.0 lbs. active) broadcast per acre per year.
- **DO NOT** apply more than two applications per year when using reduced application rates.
- **DO NOT** make follow up application within 8 weeks of previous application.
- For application only during the nonbearing year of blackberries grown using Alternate Year (AY) management system.
- **DO NOT** apply **BLASTWAVE 480 SC** to blackberries during the bearing season.

[†] Dosages listed are for broadcast application. See Ground Application section of this label for conversion to band application rates.

BROCCOLI / CABBAGE / CAULIFLOWER Pre-transplant (Preplant) Application for Preemergence Broadleaf Weed Control

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	0.5 - 1.0 (0.25 - 0.5 lbs AI)	Pre-Transplant Application Only: Apply broadcast to final seedbed prior to transplanting. Use lower rate in the rate range on coarse textured soils with less than 1% organic matter. Use the highest rate in the rate range on medium to fine textured soils or soils containing greater than 1% organic matter: Transplanting must be accomplished with minimal soil disturbance and soil left undisturbed during the time weed control is desired.

Precautions:

- Pre-transplant applications may result in initial, but temporary, crop injury (leaf cupping or crinkling) and is enhanced if crop leaves come in direct contact with treated soil. Crop will rapidly outgrow this Condition and develop normally. Severe crop injury may result if transplants are under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides or storage conditions. The use of transplants less than 5 weeks old or use of extremely succulent transplants grown in containers less than 1-inch square, may increase the severity of crop injury. Hardening off, increasing the age of transplants or increasing the size of the rooting containers will lessen the possibility and/or severity of potential crop injury.
- **BLASTWAVE 480 SC** will assist in early season annual grass control, however, a herbicide program for preemergence or postemergence control of annual grasses is recommended.
- Applications to muck soils may result in partial weed control or suppression.

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- Furrow and drip irrigation immediately after transplanting and under high temperatures can result in increased crop injury. Sprinkler irrigation is recommended during early establishment of transplants. If these conditions cannot be met, **BLASTWAVE 480 SC** herbicide should not be used.

Crop-Specific Restrictions:

- **DO NOT** apply more than 1 pint (0.5 lbs of active) of **BLASTWAVE 480 SC** per treated acre per year.
- **DO NOT** make more than one application per year.
- **DO NOT** apply more than 1 pint (0.5 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- **DO NOT** apply **BLASTWAVE 480 SC** if an acetanilide herbicide (such as but not limited to acetochlor, metolachlor, flufenacet, dimethenamid) has been applied to the field during the current growing year as severe crop injury may occur.
- **DO NOT** apply **BLASTWAVE 480 SC** as a preemergence treatment to direct-seeded broccoli, cabbage or cauliflower.
- **DO NOT** apply **BLASTWAVE 480 SC** post-transplant or over-the-top of broccoli, cabbage or cauliflower.

Key Weeds Controlled

Preemergence

carpetweed
pigweed, redroot
purslane, common
smartweed, Pennsylvania

CACAO (BEARING AND NONBEARING) (For Use Only in Hawaii) **BLASTWAVE 480 SC** may be applied as a pre-transplant treatment or to established or recently transplanted cacao.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	1 – 4 (0.5 – 2.0 lbs AI)	Pre-transplant Application: Up to 2 pints per broadcast acre may be applied as a pre-transplant application. Application to Established Plantings: In established plantings, including recently transplanted cacao plants, apply as a directed spray to the orchard floor. Use higher rates in rate range and increase spray volume to control dense growth of existing weeds or for extended residual preemergence weed control.

Precautions:

- **BLASTWAVE 480 SC** should be applied to only healthy growing trees/transplants of suitable size to allow directed sprays. Avoid spray contact with foliage.

Crop-Specific Restrictions:

- **DO NOT** apply more than 4 pints (2.0 lbs. of active) of **BLASTWAVE 480 SC** per acre as a single application.
- **DO NOT** apply more than 12 pints (6.0 lbs of active) per acre per year.
- **DO NOT** make more than 4 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 10 weeks of previous application.

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- Preharvest Interval: **DO NOT** apply **BLASTWAVE 480 SC** within 1 day of harvest.
- **DO NOT** apply preplant or preemergence to direct-seeded cacao.

Key Weeds Controlled

Preemergence	Postemergence
Ageratum Buttonweed Crotalaria purslane, common spurge, garden	purslane, common spurge, garden

CITRUS (NONBEARING)

Citrus, such as Calamondin, Chironja, Citrus Citron, Grapefruit, Kumquat, Lemon, Lime, Mandarin, Pummelo, Satsuma Mandarin, Sour Orange, Sweet Orange, Tangelo, Tangerine, Tangor

BLASTWAVE 480 SC may be applied only in non-bearing citrus orchards. Apply only as a directed spray to the orchard floor avoiding contact with citrus foliage.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	3 (1.5 lbs AI)	Preemergence Weed Control: Up to 3 pint/acre may be applied for residual preemergence weed control.
Postemergence	1 – 3 (0.5 – 1.5 lbs AI)	Postemergence Weed Control: The 3 pint/acre rate will control weeds up to 4 inches tall. Weeds greater than 4-leaf or 4 inches tall may be partially controlled. Use sufficient spray volume for complete and uniform coverage of weeds. Increase the spray volume with increased weed height and density to ensure complete coverage.

Tank Mixing: Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions.

- Preemergence Use: For residual control of grass weeds, **BLASTWAVE 480 SC** may be tank mixed with grass herbicides labeled for use in citrus.
- Postemergence Use: For broader spectrum postemergence control of emerged grass and broadleaf weeds, **BLASTWAVE 480 SC** may be tankmixed with paraquat or glyphosate.

Crop-Specific Restrictions:

- Apply **BLASTWAVE 480 SC** only to nonbearing citrus (trees that will not bear fruit for one year).
- **DO NOT** apply more than 3 pints (1.5 lbs of active) of **BLASTWAVE 480 SC** per acre per year as a result of a single or multiple applications.
- **DO NOT** apply more than 3 pints (1.5 lbs of active) in a single application.
- **DO NOT** make more than 3 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 8 weeks of previous application
- **DO NOT** apply during periods of new citrus foliage growth. Applications must be made after foliage has fully expanded and hardened off. Avoid direct spray contact with citrus foliage.
- **DO NOT** apply within 365 days of harvest.

Key Weeds Controlled

(Arizona and California)		(Florida, Louisiana and Texas)	
Preemergence	Postemergence	Preemergence	Postemergence
burclover cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree, redstem filaree, whitestem groundsel, common henbit knotweed, prostrate lambsquarters, common lettuce, prickly pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual spurge, prostrate spurge, spotted	cheeseweed (malva) fiddleneck, coast filaree, broadleaf† filaree, redstem† filaree, whitestem† groundsel, common henbit minerslettuce nettle, burning pigweed, redroot redmaids shepherdspurse sowthistle, annual	cudweed, narrowleaf Eveningprimrose, cutleaf†† groundcherry, cutleaf lambsquarters, common nightshade, American black nightshade, black pepperweed, Virginia pigweed, redroot poinsettia, wild pusley, florida sida, prickly (teaweed) smartweed, Pennsylvania sowthistle, annual spurge, prostrate spurge, spotted	balsamapple cudweed, narrowleaf††† eveningprimrose, cutleaf†† groundcherry, cutleaf groundcherry, Wright lambsquarters, common morningglory, annual nightshade, American black nightshade, black pepperweed, Virginia pigweed, redroot poinsettia, wild purslane, common pusley, florida sida, prickly (teaweed) smartweed, Pennsylvania sowthistle, annual

† **BLASTWAVE 480 SC** at the 3 pint/acre (1.5 lbs AI) will provide control of filaree and other weeds up to 4-inch stage. Applications to weeds beyond the 4-inch stage may result in partial control.

†† Highest rate and/or multiple applications may be required for acceptable control.

††† Maximum 0.5-inch diameter

CLARY SAGE (For Use Only in North Carolina) Clary Sage (*Salvia sclarea*) Grown and Utilized in the Essence Industry

Weed Control	Rate (pint/acre)	Specific Use Directions
Postemergence	0.25 - 0.5 (0.125 - 0.25 lbs AI)	BLASTWAVE 480 SC may be applied to established clary sage for control of henbit (<i>Lamium amplexicaule</i>) and other winter annual broadleaf weeds during the winter and spring season. Apply shortly after the first flush of henbit is in the 2- to 4-leaf stage of growth. Additional applications may be required to control subsequent weed flushes through the spring season. After treatment, henbit will stop growing and slowly die. Increase the spray volume if weed growth is dense.
Precautions: Clary sage may respond to the topical application of this product with some marginal leaf burn, but recovery is rapid.		

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Crop-Specific Restrictions:

- **DO NOT** apply more than 0.5 pints (0.25 lbs of active) in a single application.
- **DO NOT** apply more than 3 pints (1.5 lbs of active) per acre per year.
- **DO NOT** make more than 6 applications per year.
- **DO NOT** make follow up applications within 8 weeks of previous application.
- **DO NOT** make application within 5 days of harvest.

COFFEE (BEARING AND NONBEARING) (For Use Only in Hawaii)

BLASTWAVE 480 SC may be applied to established coffee, recently transplanted coffee, or as a pre-transplant treatment. In established non-dormant coffee, apply as a directed spray avoiding contact with crop foliage. Newly established transplants should be healthy and well established and of sufficient size to allow use of directed sprays without contacting crop foliage.

BLASTWAVE 480 SC may be applied over-the-top of dormant coffee transplants. Transplants are considered to be dormant when active terminal growth has ceased and terminal buds have formed. Application over-the-top of coffee plants after buds start to swell (a sign that new growth has resumed) may result in crop injury and is not recommended.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	1 - 4 (0.5 - 2.0 lbs AI)	Preemergence Weed Control: · Apply as a directed spray to the orchard floor beneath established coffee plants. · Up to 2 pints (1.0 lbs of active) per acre may be applied as a pre-transplant application prior to transplanting coffee plants. Postemergence Weed Control: · Increase the spray volume when weed growth is dense or trash is present; or use a higher rate within the rate range for extended residual preemergence weed control.

Tank Mixing: Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. Apply tank mixes only as directed sprays.

Crop-Specific Restrictions:

- To prevent foliar injury, **DO NOT** apply during periods of rapid new growth or allow spray or drift to contact actively growing foliage.
- **DO NOT** apply preplant or preemergence to direct-seeded coffee.
- **DO NOT** apply more than 4 pints (2.0 lbs. of active) broadcast per acre of **BLASTWAVE 480 SC** in a single application.
- **DO NOT** apply more than 12 pints (6.0 lbs of active) broadcast per acre per year.
- **DO NOT** make more than 4 applications per year when using reduced application rates.
- Minimum retreatment interval between applications is 10 weeks.
- **Preharvest Interval:** **DO NOT** apply **BLASTWAVE 480 SC** within one (1) day of harvest.

Key Weeds Controlled:

Preemergence	Postemergence
Ageratum Buttonweed crotalaria purslane, common spurge, garden	purslane, common spurge, garden

CONIFER SEEDBEDS, TRANSPLANTS, CONTAINER STOCK AND SELECTED FIELD GROWN DECIDUOUS TREES

Tank Mixing: Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. Apply tank mixes only as directed sprays.

Crop-Specific Restrictions:

- Apply **BLASTWAVE 480 SC** only to healthy conifer stock. **DO NOT** apply **BLASTWAVE 480 SC** to conifers that are under stress from excessive fertilizer or soil salts, disease, nematodes, frost, drought, flooding, previously applied pesticides, soil insects, or winter injury, as severe injury may result.
- **DO NOT** apply for conifer release in forest management programs or for forest regeneration applications.
- **DO NOT** graze or harvest livestock forage from treated areas.
- **DO NOT** apply **BLASTWAVE 480 SC** in an enclosed greenhouse structure as injury to plant foliage may result.
- **DO NOT** store or transport treated container stock in an enclosed structure until completion of 4 irrigations (minimum 21 days) as injury to non-labeled plants may occur.

Key Weeds Controlled: When **BLASTWAVE 480 SC** is applied preemergence or postemergence at specified dosages and weed stages.

barnyardgrass † bedstraw, catchweed bittercress, lesser bluegrass, annual † buckwheat, wild burclover carpetweed clover, red † clover, white † cocklebur, common crabgrass, large † fiddleneck, coast † filaree, broadleaf filaree, redstem fireweed (from seed) flixweed	foxtail, giant † goosegrass † groundcherry, cutleaf groundcherry, wright groundsel, common henbit jimsonweed knotweed, prostrate ladysthumb lambsquarters, common lettuce, prickly mallow, little mayweed minerslettuce morningglory, ivyleaf † morningglory, tall †	mustard, blue mustard, tumble mustard, wild nettle, burning nightshade, black nightshade, hairy oats, wild orach, red pepperweed, yellowflower pigweed, prostrate pigweed, redroot pimpernel, scarlet purslane, common redmaids rocket, London sandspurry, red	sheepspurge † sida, prickly smartweed, Pennsylvania sorrel, red (from seed) sowthistle, annual speedwell, birdseye spurge, prostrate †† spurge, spotted †† spurry, corn tansymustard thistle, bull †† thistle, Russian velvetleaf witchgrass woodsorrel, yellow ††
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† Highest rate and/or multiple applications may be required for acceptable control.

†† Preemergence control only.

CONIFER SEEDBEDS

BLASTWAVE 480 SC provides both postemergence and residual preemergence control of many broadleaf weeds and annual grass species.

Seeded conifers are tolerant to preemergence and postemergence applications of **BLASTWAVE 480 SC**. For weed control during the establishment of conifer seedlings, **BLASTWAVE 480 SC** can be applied after seeding of conifers, but prior to emergence. For weed control in emerged conifers, **BLASTWAVE 480 SC** may be applied over-the-top, but the application must be delayed at a minimum of 5 weeks after seedling emerges. If applying during cool or cloudy weather, make certain that seedlings have hardened-off prior to spraying.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	0.5 - 2 (0.25 - 1.0 lbs AI)	Application after planting, but prior to emergence of conifer seedlings: Where grass weeds are present, apply 1 to 2 pints (0.5 - 1.0 lbs of active) per acre. In known areas of high weed competition, apply 2 pints (1.0 lbs of active) of BLASTWAVE 480 SC per acre. Broadcast to beds and irrigate with 1/2 to 3/4 inch of sprinkler irrigation before weed emergence. BLASTWAVE 480 SC is most effective on annual grasses when applied preemergence.
Postemergence	0.5 - 1 (0.25 - 0.5 lbs AI)	Application after emergence of conifer seedlings: Application must be made to seedling weeds less than 4 inches in height (seedling grasses not exceeding the 2-leaf stage). Depending of subsequent weed flushes, multiple applications may be necessary to achieve year-long weed control.
Chemigation: BLASTWAVE 480 SC may be applied at labeled rates through sprinkler irrigation systems. For center pivot irrigation systems, apply the specified dosage of BLASTWAVE 480 SC per acre metered at a continuous uniform rate during the entire irrigation period, otherwise meter BLASTWAVE 480 SC at a continuous uniform rate during the middle 1/3 of the irrigation period. When applying by sprinkler irrigation, follow directions given in the Chemigation Instructions section of this label.		
Precautions: · Occasionally spotting, crinkling, or flecking may appear on leaves of conifers. Leaves that receive direct spray or drift may be injured, but typically outgrow this condition rapidly and develop normally.		
Crop-Specific Restrictions: · DO NOT apply more than 4 pints (2.0 lbs of active) of BLASTWAVE 480 SC per acre per year. · DO NOT apply more than 2 pints/Acre (1.0 lb of active) in a single application. · DO NOT make more than 4 applications per year when using reduced application rates. · DO NOT make follow up applications within 8 weeks of previous application		

BLASTWAVE 480 SC may be applied to conifer seedbeds of the following species:

Important: When applied as directed, the conifer species listed on this label have shown tolerance to **BLASTWAVE 480 SC**. It is impossible, however, to evaluate this product on all varieties, biotypes and cultivars of listed species under all possible growing conditions. Until familiar with results under local growing conditions, the user should exercise reasonable judgment and caution with this product. Limit application of this product to a few plants in a small area to determine plant tolerance and extent of injury if such occurs, prior to initiating large-scale applications.

Douglas fir	Pseudotsuga menziesii
Fir	Fraser (Abies fraseri) Grand (Abies grandis) Noble (Abies procera)

Hemlock	Eastern hemlock (<i>Tsuga canadensis</i>)
Pine	Austrian (<i>Pinus nigra</i>) Eastern White (<i>Pinus strobus</i>) Himalayan (<i>Pinus wallichiana</i>) Jack (<i>Pinus banksiana</i>) Loblolly (<i>Pinus taeda</i>) Lodgepole (<i>Pinus contorta</i>) Longleaf (<i>Pinus palustris</i>) Monterey (<i>Pinus radiata</i>) Mugo (<i>Pinus mugo</i>), Ponderosa (<i>Pinus ponderosa</i>) Scotch (<i>Pinus sylvestris</i>) Shortleaf (<i>Pinus echinata</i>) Slash (<i>Pinus e/lotitii</i>) Virginia (<i>Pinus virginiana</i>)
Spruce	Blue (<i>Picea pungens</i>) Dwarf Alberta (<i>Picea glauca</i> Conica) Norway (<i>Picea abies</i>) Sitka (<i>Picea sitchensis</i>)

CONIFER TRANSPLANTS AND CONTAINER STOCK (INCLUDES 2-0 SEEDLING AND CHRISTMAS TREE PLANTINGS)

Many container-grown conifers and conifer transplants are tolerant to preemergence and postemergence applications of **BLASTWAVE 480 SC**. Applied postemergence, **BLASTWAVE 480 SC** provides postemergence control of emerged weeds and preemergence residual control of many broadleaf weeds and grasses (see Key Weeds Controlled) at the beginning of this section.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 4 (1.0 - 2.0 lbs AI)	Transplanted and Container Grown Conifers: For best results, make preemergence applications immediately after transplanting seedlings or to weed-free container stock. Make postemergence applications to weeds less than 4 inches in height. Two applications may be necessary, in fall-transplanted conifer fields, for year-long weed control. The addition of a non-ionic surfactant (0.25% v/v) labeled for application to growing crops, enhances the activity of BLASTWAVE 480 SC on emerged weeds.
Crop-Specific Restrictions: - DO NOT apply more than 4 pints (2.0 lbs of active) of BLASTWAVE 480 SC per acre in a single application. - DO NOT apply more than 8 pints (4.0 lbs of active) per acre per year. - DO NOT make more than 4 applications per acre per year when using reduced application rates. - DO NOT make follow up applications within 8 weeks of previous application - DO NOT make over-the-top applications during periods of active conifer growth. Apply only before bud break or after new terminal growth has hardened off.		

In addition to those conifer species listed under the Conifer Seedbed section, the following conifer species have been shown to be tolerant to **BLASTWAVE 480 SC**:

Arborvitae	Thuja occidentalis Thuja orientalis
Juniper	Juniperus chinensis Juniperus horizontalis Juniperus procumbens Juniperus sabina Juniperus scopulorum
Red cedar	Juniperus virginiana
Western Hemlock	Tsuga heterophylla
Yew	Taxus species

SELECTED FIELD-GROWN DECIDUOUS TREES

Listed field-grown deciduous trees are tolerant only to directed spray applications of **BLASTWAVE 480 SC**.

BLASTWAVE 480 SC provides both preemergence and postemergence control of listed broadleaf weeds and grasses.

Timing to Crop: Apply **BLASTWAVE 480 SC** to established deciduous trees or after transplanting. For optimum weed control, applications should be made prior to weed germination. Apply only as a directed spray to soil beneath the trees.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Early postemergence	1 - 3 (0.5 - 1.5 lbs AI)	BLASTWAVE 480 SC may be applied to established deciduous trees or after transplanting as a single or split application. Apply as a directed spray to the soil surface. Use of spray shields to reduce exposure of foliage and bark is advised. The addition of a non-ionic surfactant (0.25% v/v) labeled for application to growing crops, will enhance herbicidal activity on emerged weeds. Spot Application: Spot treatments at specified rates may be used to control localized weed infestations. See use directions for Spot Application in the Application Methods and Cultural Practices section.
Tank Mixing: For broader spectrum control, BLASTWAVE 480 SC may be tank mixed with other preemergence or postemergence herbicides registered for this use in deciduous trees. Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.		
Precautions: For maximum crop safety, directed applications must be prior to budbreak in the spring or after trees have initiated dormancy in the fall. Avoid contact of spray or drift with foliage or stems with green bark. Application after bud swell may result in crop injury and is not advised. If a non-dormant application is required due to weed competition, apply only after foliage has fully expanded and hardened off. Use only directed sprays and spray shields to prevent spray contact with stems with green bark or foliage.		

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Crop-Specific Restrictions:

- **DO NOT** apply **BLASTWAVE 480 SC** to trees that have been weakened or are under stress from excessive fertilizer or soil salts, disease, nematodes, frost, wind injury, drought, flooding, previously applied pesticides, insects, or winter injury as severe injury may result.
- **DO NOT** apply more than 3 pints (1.5 lbs of active) of **BLASTWAVE 480 SC** per acre per year.
- **DO NOT** apply more than 3 pints (1.5 lbs of active) per acre in a single application.
- **DO NOT** make more than 3 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 8 weeks of previous application
- **DO NOT** apply to bearing tree fruit, nut and vine crops. For selected bearing tree fruit, nut and vine crops, refer to Tree Fruit/Nut/Vine section of this label for use directions.
- **DO NOT** graze or feed livestock forage cut from areas treated with **BLASTWAVE 480 SC**.

BLASTWAVE 480 SC may be applied to the following deciduous tree species:

Almond ^{††}	Prunus spp.
Apple ^{††}	Malus X domestica
Apricot ^{††}	Prunus spp.
Ash, Green	Fraxinus pennsylvanica
Ash, White	Fraxinus americana
Birch, River	Betula nigra
Cherry ^{††}	Prunus spp.
Chestnut ^{††}	Castanea spp.
Crabapple ^{††}	Malus spp.
Cottonwood	Populus spp.
Dogwood	Cornus florida
Eucalyptus	Eucalyptus viminalis Eucalyptus pulverulenta Eucalyptus camaldulensis
Filbert ^{††}	Corylus spp.
Lilac	Syringa vulgaris
Locust, Black	Robinia pseudoacacia
Maple, Black [†]	Acer nigrum
Maple, Red [†]	Acer rubrum
Maple, Sugar [†]	Acer saccharum
Myrtle, Crepe	Lagerstroemia indica
Nectarine ^{††}	Prunus spp.
Nut, Hickory ^{††}	Carya sp.
Nut, Macadamia	Macadamia ternifolia

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Oak, Chestnut	Quercus prinus.
Oak, Cherrybark	Quercus pagoda
Oak, Nutt All	Quercus nuttallii
Oak, Pin	Quercus palustris
Oak, Red	Quercus. rubra
Oak ,Water	Quercus nigra
Oak, Willow	Quercus phellos
Olive, Russian	Elaeagnus angustifolia
Poplar	Populus spp.
Poplar, Tulip	Liriodendron tulipifera
Peach††	Prunus persica
Pear††	Pyrus spp.
Pecan ††	Carya spp.
Pistachio††	Pisidcia vera
Plum††	Prunus spp.
Prune††	Prunus spp.
Redbud	Cercis canadensis
Sweetgum	Liquidambar styraciflua
Sycamore	Platanus occidentalis
Walnut, Black††	Juglans nigra

† **DO NOT** apply to maple trees used for production of maple sap or maple syrup.

†† Apply only to nonbearing trees. For bearing treefruit, nut and vine crops, refer to specific use directions in the Treefruit/Nut/Vine section of this label.

CORN FOR USE ONLY ON FIELD CORN IN CONJUNCTION WITH THE USDA WITCHWEED ERADICATION PROGRAM IN NORTH CAROLINA AND SOUTH CAROLINA

Apply **BLASTWAVE 480 SC** only as a directed spray from May through August for preemergence and postemergence control of witchweed (*Striga asiatica*). Corn must be a minimum of 24 inches tall at the first application. Examine witchweed infested fields during the early part of the growing season to determine uniformity of corn stand and grass weed pressure. If necessary, cultivate weed-infested fields prior to initial application of **BLASTWAVE 480 SC** to allow for optimum soil coverage during the initial application. Fields treated with **BLASTWAVE 480 SC** should be inspected regularly for any breakthrough of witchweed. If breakthrough occurs, a second application should be made as soon as possible after appearance of witchweed. Repeat treatments should occur prior to bloom stage to prevent seed set.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	1 - 1.5 (0.5 - 0.75 lbs AI)	Initial Application: Apply as a directed spray over the entire row surface at the rate of 1 pint (0.5 lbs of active) per acre. Use up to 1.5 pints (0.75 lbs of active) per acre in areas of heavy witchweed infestation. Use a minimum spray volume of 20 gallons per acre and a non-ionic surfactant at the time of 2 pints per 100 gallons of spray.
Postemergence	0.5 - 1 (0.25 - 0.5 lbs AI)	Repeat Applications: In case of witchweed breakthrough a repeat application may be made at 0.5 to 1 pint (0.25 - 0.5 lbs of active) per acre.

Crop-Specific Restrictions:

- **DO NOT** apply more than 2.5 pints (1.25 lbs. of active) of **BLASTWAVE 480 SC** per acre during the year.
- **DO NOT** apply more than 1.5 pints (0.75 lbs of active) per acre in a single application.
- **DO NOT** make more than 3 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up application within 10 weeks of previous application.
- **DO NOT** apply any application within 60 days of harvest.
- **DO NOT** use corn plants from a treated field for green chop, ensilage, forage, or fodder.
- **DO NOT** spray over the top of the corn, as this may result in severe corn injury. Spray must contact only the lower 3 to 8 inches of the corn stalk and any leaves in this zone. Spray droplets contacting the lower leaves will cause necrotic spotting or streaking of sprayed tissue.

COTTON**Application Methods and Equipment:**

BLASTWAVE 480 SC may be applied as a post-direct spray to cotton a minimum of 6 to 8 inches, tall. Care must be exercised to avoid spray contact with the cotton leaves. Use rigid precision ground spray equipment and spray shields to prevent spray contact with cotton foliage. Use branch lifters or shields, as necessary, to avoid contact of directed sprays with cotton plant.

Accurate placement of spray nozzles is essential for uniform coverage of weeds and to minimize injury to cotton plants. Use a minimum broadcast spray volume of 20 gallons per acre and operate the sprayer at the minimum spray pressure recommended by the spray nozzle manufacturer. **BLASTWAVE 480 SC** may be applied as a post-direct spray with only 2 flat fan nozzles per row (1 nozzle on each side of the row). For optimum coverage, use 4 flat fan nozzles per row (2 nozzles on each side of the row). The 2 forward nozzles should point forward and downward while the rear nozzles should point to the rear and downward. With either sprayer setup, nozzles should be carefully adjusted to cover the weed foliage with minimum contact to cotton plants. **BLASTWAVE 480 SC** may also be applied as a band application. **Do not use hollow cone nozzles.**

Tank Mixing: For control of additional broadleaf and grass weeds, **BLASTWAVE 480 SC** may be applied as a postemergence directed spray in tank mix combination with other herbicides registered for postemergence use in cotton (see Tank Mixing Precautions and Restrictions under Mixing Directions).

Weed Control	Rate (pint/acre)	Specific Use Directions
Postemergence	0.5 - 1 (0.25 - 0.5 lbs AI)	Apply as a post-directed spray. For optimum control, use the 1 pint (0.5 lbs of active) per acre rate on actively growing weed seedlings with no more than 4 true leaves (not counting cotyledon leaves). Effective control of succulent weeds at the 2- to 3-leaf stage can usually be obtained at the 0.5 pint (0.25 lbs of active) per acre rate. See Mixing Directions for surfactant specification. Where available, irrigation may be applied prior to application of BLASTWAVE 480 SC to encourage maximum weed emergence. Irrigation following application will improve preemergence activity of BLASTWAVE 480 SC against nightshade and groundcherry species.

Precautions:

- Exercise care to avoid spray contact with cotton leaves. Leaves accidentally sprayed will exhibit necrotic (dead) spots and may be dropped from the plant. Crop injury may be enhanced if application is made when excessive soil moisture is present or rainfall occurs immediately after application, however, cotton will outgrow this condition and develop normally.

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Crop-Specific Restrictions:**Western Cotton (only AZ and CA):**

- **DO NOT** apply more than 1 pints (0.5 lb. of active) of **BLASTWAVE 480 SC** per acre in a single application.
- **DO NOT** apply more than 2 times of **BLASTWAVE 480 SC** broadcast per acre per year.
- **DO NOT** apply more than 2 pints (1.0 lb. active) per acre per year.
- **DO NOT** make follow up applications within 10 weeks of previous application.
- **DO NOT** apply within 75 days of harvest of Western Cotton.
- **DO NOT** apply to cotton less than 6 inches tall or severe crop injury will result

Southern Cotton (All other states excluding AZ and CA):

- **DO NOT** apply more than 1 pints (0.5 lb. active) of **BLASTWAVE 480 SC** per acre of per year as a result of a single application or multiple applications.
- **DO NOT** apply more than 1 pint (0.5 lbs of active) per acre in a single application.
- **DO NOT** make more than 2 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 10 weeks of previous application.
- **DO NOT** apply within 90 days of harvest of Southern Cotton.
- **DO NOT** apply to cotton less than 6 inches tall or severe crop injury will result.

Key Weeds Controlled:

Postemergence	
cocklebur, common croton, tropic groundcherry, cutleaf groundcherry, Wright jimsonweed lambsquarters, common morningglory, annual (up to 6 leaf) nightshade, American black	Nightshade, black Nightshade, hairy Pigweed, redroot Poinsettia, wild† Purslane, common Sesbania, hemp Sicklepod†† Sida, prickly (teaweed) † Smartweed, Pennsylvania Velvetleaf

† Multiple applications may be required for acceptable control.

†† Post-direct applications of **BLASTWAVE 480 SC** will control or suppress seedlings not exceeding the one true leaf stage.

COTTONWOOD

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 3 (1.0 - 1.5 lbs AI)	BLASTWAVE 480 SC may be applied as a single or split application. Apply as a directed spray to soil at the base of cottonwood trees. Use the higher rate in the rate range for extended preemergence weed control or for Postemergence control of weeds up to the 6-leaf stage. The addition of a non-ionic surfactant at 2 pints per 100 gallons of spray will enhance the Postemergence activity of BLASTWAVE 480 SC on emerged weeds.
Precautions: Apply BLASTWAVE 480 SC immediately after transplant only to dormant healthy cottonwood stock.		
Crop-Specific Restrictions: DO NOT apply more than 3 pints (1.5 lbs. of active) per acre of BLASTWAVE 480 SC in a single application. DO NOT apply more than 9 pints (4.5 lbs. active) per acre per year. DO NOT make more than 4 applications per acre per year when using reduced application rates. DO NOT make follow up applications within 8 weeks of previous application - In established stands, DO NOT allow sprays of BLASTWAVE 480 SC to contact cottonwood foliage. In newly established cottonwood plantings, use spray shields, if necessary, to prevent exposure of green bark and foliage.		

Key Weeds Controlled:

Groundsel, common Knowtweed, prostate Lambsquarter, common	Mustard, hedge Shepherdspurse Smartweed, Pennsylvania
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EUCALYPTUS

Apply **BLASTWAVE 480 SC** for preemergence and postemergence control of listed broadleaf weeds in established eucalyptus plantings.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 3 (1.0 - 1.5 lbs AI)	Directed Spray: BLASTWAVE 480 SC may be applied as a single or split application. Apply as a directed spray to soil at the base of eucalyptus trees. Use the higher rate in the rate range for extended preemergence weed control or for postemergence control of weeds up to the 6-leaf stage. The addition of a non-ionic surfactant at the rate of 2 pints per 100 gallons of spray will enhance the postemergence activity of BLASTWAVE 480 SC on emerged weeds. Over-the-Top Application: In new plantings, apply BLASTWAVE 480 SC just before or immediately after transplanting eucalyptus seedlings that are in a dormant condition (i.e., leaves may be present, but terminal growth has hardened off and terminal buds have formed). In established plantings, BLASTWAVE 480 SC may be applied as an over-the-top spray when plants are in a dormant condition.

Precautions:

- At transplant, apply **BLASTWAVE 480 SC** only to healthy "dormant" healthy eucalyptus stock. In established plantings, use spray shields, if needed, to prevent exposure of foliage and bark of small and/or actively growing plants.
- To avoid phytotoxicity, make over-the-top applications only to eucalyptus trees in a dormant condition.

Crop-Specific Restrictions:

- DO NOT** apply more than 3 pints (1.5 lbs. active) of **BLASTWAVE 480 SC** per acre in a single application.
- DO NOT** apply more than 9 pints (4.5 lbs. active) per acre per year.
- DO NOT** make more than 4 applications per acre per year when using reduced application rates.
- DO NOT** make follow up applications within 8 weeks of previous application
- DO NOT** make over-the-top applications after bud break and resumption of active growth.

Key Weeds Controlled:

Preemergence	Postemergence
burclover cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree, redstem filaree, whitestem groundsel, common henbit knotweed, prostrate lambsquarters, common lettuce, prickly pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual spurge, prostrate spurge, spotted	cheeseweed (malva) fiddleneck, coast filaree, broadleaf† filaree, redstem† filaree, whitestem† groundsel, common henbit miners lettuce nettle, burning pigweed, redroot redmaids shepherdspurse sowthistle, annual

† At the 3-pint rate, **BLASTWAVE 480 SC** will provide control of filaree up to the 6-leaf stage.

USE ON FALLOW BEDS (Not for use prior to planting soybeans in California)

Used alone or in tank mix combination with glyphosate, **BLASTWAVE 480 SC** provides preemergence and/or postemergence control of winter annual broadleaf weeds on land to be planted to crops.

Prior to planting, treated fallow beds should be thoroughly tilled (incorporated) to a depth of at least 2.5 inches. **BLASTWAVE 480 SC** is no longer herbicidally effective once the active layer in the soil surface is disrupted by soil incorporation.

Aerial Application: **BLASTWAVE 480 SC** may be aerially applied for weed control in fallow beds. Follow requirements for Aerial Application in the General Information section of this label.

Minimum Treatment to Planting Intervals for listed crops.

Direct Seeded Crops	Minimum Treatment-to-Planting Interval	
	BLASTWAVE 480 SC (up to 0.5 pint/acre)	BLASTWAVE 480 SC (>0.5 to 1 pint/acre)
carrot	90 days	90 days
cotton	7 days	7 days
potato	60 days	60 days
sugar beet	60 days	90 days
other root/tuber crops	90 days	90 days
onions	180 days	180 days
other bulb vegetables	180 days	180 days
cabbage	90 days	90 days
cauliflower	90 days	90 days
other brassica crops	120 days	120 days
lettuce	90 days	120 days
other leafy vegetables (except brassica crops)	120 days	120 days
pepper	90 days	120 days
tomato	60 days	120 days
other fruiting vegetables	120 days	120 days
cantaloupe	60 days	90 days
squash	90 days	120 days
watermelon	60 days	60 days
other cucurbits	90 days	120 days
dry beans	60 days	60 days
peanut	60 days	60 days
other legume vegetables	60 days	60 days
safflower	60 days	60 days
Soybeans (Except California)	7 days	7 days
cereal grains: Including barley, buckwheat, corn, proso millet, pearl millet, oats, popcorn, rice, rye, sorghum, triticale, wheat, and wild rice	10 months	10 months
cotton and soybean	(see specific labeling for fallow beds to be planted to cotton or soybeans)	

Transplanted Crops	Minimum Treatment-to-Planting Interval	
	BLASTWAVE 480 SC (up to 0.5 pint/acre)	BLASTWAVE 480 SC (>0.5 to 1 pint/acre)
celery	30 days	30 days
conifer	0 days	0 days
garlic	0 days	30 days

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Transplanted Crops	Minimum Treatment-to-Planting Interval	
	BLASTWAVE 480 SC (up to 0.5 pint/acre)	BLASTWAVE 480 SC (>0.5 to 1 pint/acre)
grape/kiwi	0 days	0 days
onion	0 days	30 days
pepper	30 days	30 days
strawberries	30 days	30 days
tomato	30 days	30 days
treefruit/nut/citrus	0 days	0 days

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	0.5 - 1 (0.25 - 0.5 lbs AI)	Use 20 or more gallons of spray volume per acre and increase spray volume for dense weed growth. Use the 0.5 pint (0.25 lbs of active) per acre rate for up to 4 weeks of preemergence control and postemergence control of susceptible weeds up to 4-leaf stage. Use the 1 pint (0.5 lbs of active) per acre rate for up to 8 weeks of preemergence control and postemergence control of susceptible weeds up to 6-leaf stage. Best preemergence control is achieved when irrigation or rainfall occurs within 3 or 4 weeks after application. A tank mix with glyphosate is advised if the treatment area contains dense weed populations, oversized weed seedlings, volunteer grains, annual grasses or under unfavorable environmental conditions. Outside of California: For enhanced contact activity (burndown/suppression) tank mix 3.25 fl oz (0.1 lbs of active) of BLASTWAVE 480 SC with the labeled rate of either glyphosate or paraquat. Apply at the application rate and weed growth stages specified in the respective tank mix product label. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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Precautions:

- Failure to achieve thorough and complete incorporation, or to follow the specified treatment-planting interval, may result in stand reduction and/or vigor reduction of the planted crop.
- Crop injury may be enhanced if newly seeded crops or transplants are under stress due to drought, flooding, excessive fertilizer or soil salts, low soil temperatures, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects or diseases.
- Exercise extreme care to avoid herbicide contact with any desirable dormant or non-dormant crop, plant, tree or vegetation as severe injury may result.

Use Restrictions for Fallow Beds:

- **DO NOT** apply more than 1 pint (0.5 lbs. active) of **BLASTWAVE 480 SC** per acre per year.
- **DO NOT** apply more than 1 pint (0.5 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- **DO NOT** make more than 2 applications per acre per year when using reduced application rates.
- **DO NOT** make a follow up application within 10 weeks of first application

Key Weeds Controlled:

BLASTWAVE 480 SC provides preemergence and postemergence control of the following weeds on fallow beds: †

Buttercup, smallflower	minerslettuce
cheeseweed (malva)	mustard species
eveningprimrose, cutleaf††	nettle, burning
fiddleneck, coast	oxalis
filaree, broadleaf	pigweed, redroot
filaree, redstem	purslane, common
filaree, whitestem	redmaids
geranium, Carolina	rocket, London
groundcherry, cutleaf	Shepherdspurse
groundsel, common	Sida, prickly
henbit	sowthistle, annual
ladythumb	velvetleaf (wild cotton)

† Thorough spray coverage is essential to maximize the postemergence activity of **BLASTWAVE 480 SC**. For postemergence control when applied by air, a tank mixture of **BLASTWAVE 480 SC** with either glyphosate or paraquat is recommended.

†† Requires maximum rate and/or multiple applications for effective control.

FALLOW LAND (For Use Only In Idaho, Oregon and Washington)

Used alone or in a tank mix combination with glyphosate, **BLASTWAVE 480 SC** provides preemergence and/or postemergence control of listed annual broadleaf weeds in a fallow land system. **BLASTWAVE 480 SC** may be used to reduce weed growth prior to the establishment of a dry soil mulch. Use is restricted to summer fallow on land that will be planted the following year to winter wheat, barley or oats.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	0.25 – 1 (0.125 – 0.5 lbs AI)	BLASTWAVE 480 SC Alone: Preemergence weed control occurs as seedling weeds come in contact with the soil-applied herbicide during emergence. Postemergence weed control is most effective when BLASTWAVE 480 SC is applied to seedling weeds less than 4 inches in height. Apply BLASTWAVE 480 SC in 15 or more gallons of water per acre and increase spray volume if weed growth is dense. Use of an 80% active nonionic surfactant cleared for use on growing crops is recommended for optimum postemergence weed control.
Tank Mixing: For postemergence control of annual grass weeds, 0.25 - 1 pint/acre of BLASTWAVE 480 SC may be tank mixed with labeled rates of glyphosate. Follow label-instructions for Fallow and Reduced Tillage Systems for the glyphosate product. Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. Use Restrictions for Fallow Land: · DO NOT apply more than 1 pint (0.5 lbs. active) of BLASTWAVE 480 SC per acre per year. · DO NOT apply more than 1 pint (0.5 lb. active) of BLASTWAVE 480 SC broadcast per acre in a single application · DO NOT make more than 2 applications per acre per year when using reduced application rates. · DO NOT make a follow up application within 10 weeks of first application		

Key Weeds Controlled:

BLASTWAVE 480 SC provides preemergence and postemergence control of the following weeds on fallow land:

fiddleneck, coast henbit lettuce, prickly (china lettuce) mustard, blue (purple mustard) mustard, tumble (Jim Hill mustard)	pigweed, redroot Purslane, common Shepherdspurse Sowthistle, annual
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GARBANZO BEANS (For Use Only in Arizona and California)

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	0.5 (0.25 lbs AI)	Apply after planting but prior to weed or crop emergence as a single broadcast application using a spray volume of 20 or more gallons of water per acre.
Precautions: · Garbanzo beans are resistant to preemergence application of BLASTWAVE 480 SC, however, under certain conditions, severe but temporary crop injury may occur. A heavy splashing rain shortly after crop emergence or wet soil conditions during early growth stages can cause leaf cupping, crinkling, stunting or defoliation of the garbanzo seedlings. Injury, when it occurs, it is usually limited to the first few leaves that develop after plants emerge from the soil. Delays in crop development and/or maturity may result, but Garbanzo beans do recover with little to no impact on yield.		

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Crop-Specific Restrictions:

- **DO NOT** apply more than 0.5 pint (0.25 lbs. active) per acre of **BLASTWAVE 480 SC** in a single application.
- **DO NOT** apply more than 0.5 pint (0.25 lbs. active) of **BLASTWAVE 480 SC** per acre per year.
- **DO NOT** make more than one application per year.
- **DO NOT** apply within 30 days of harvest.
- **DO NOT** use bean vines for livestock feed or hay.

Key Weeds Controlled:

Preemergence
groundsel, common mallow, little rocket, London shepherdspurse

GARLIC

Cultural Considerations: For optimum preemergence weed control, the soil surface should be smooth and free of excessive trash (clippings, plant residues, etc.). Following application, treated beds should be left undisturbed during the time period for which weed control is desired. Cultural practices that result in soil disturbance or redistribution or untreated soil can result in reduced weed control.

Direct Seeded Garlic (Postemergence Application):

Weed Control	Rate (per acre)	Specific Use Directions
Postemergence	1 - 2 fl oz (0.003 - 0.006 lbs AI)	Northeastern States Including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Apply BLASTWAVE 480 SC at 1 to 2 fl oz (0.003 - 0.006 lbs of active) per acre to seeded garlic that has at least 3 true leaves using ground equipment. Multiple treatments at 1 to 2 fl oz per acre may be applied up to a maximum of 1 pint (16 fl oz) (0.5 lbs of active) per acre per year. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf growth stage may result in reduced weed control.
Postemergence	0.25 - 0.5 pint (0.125 - 0.25 lbs AI)	Western States Including Arizona, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah and Washington: Apply BLASTWAVE 480 SC at 0.25 to 0.5 pint (0.125-0.25 lbs of active) per acre to seeded garlic that has at least 2 true leaves using ground equipment. Multiple treatments at 0.25 to 0.5 pint (0.125-0.25 lbs of active) per acre may be applied up to a maximum of 1 pint (0.5 lbs of active) per acre per year. For optimum postemergence weed control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf growth stage may result in reduced weed control.

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Postemergence	0.25 pint (0.125 lbs AI)	All Other States: Apply BLASTWAVE 480 SC at 0.25 pint (0.125 lbs of active) per acre to seeded garlic that has at least 2 true leaves using ground equipment. Multiple treatments at 0.25 pint (0.125 lbs of active) per acre may be applied up to a maximum of 1 pint (0.5 lbs of active) per acre per year. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf growth stage may result in reduced weed control.
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Direct Seeded Garlic (California Only)		
Weed Control	Rate (per/acre)	Specific Use Directions
Preemergence Postemergence	0.5 pint (0.25 lbs AI)	Application after planting but Prior to Garlic Emergence: Apply BLASTWAVE 480 SC after planting, but prior to crop emergence, for preemergence control of listed broadleaf and grass weeds using ground, air or sprinkler irrigation (chemigation). Aerial Application: Apply in a minimum spray volume of 10 gallons per acre. Follow Aerial Application instructions and precautions in the Product Use Information section of this label. Postemergence and Directed Application: Apply BLASTWAVE 480 SC as a directed or over-the-top spray to garlic that is at least 12 inches tall. Accurate, uniform placement of directed postemergence sprays is essential for effective weed control and to minimize injury to garlic. Use low-pressure sprays and a minimum spray volume of 20 gallons per acre. Adjust nozzles for minimum spray contact with garlic plants, directing the spray to the soil at the base of garlic plants and adjacent bed top and furrow area. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Application at later than 4-leaf growth stage may result in reduced weed control. Sprinkler Irrigation (Portable Lateral or Solid Set) Preemergence or Postemergence: Apply BLASTWAVE 480 SC at the specified broadcast application rate using sufficient irrigation to wet soil to a depth of 2 inches. Apply after planting but prior to garlic emergence or postemergence when garlic is at least 12 inches tall. Follow the application directions and precautions for "Sprinkler Chemigation" given in the Chemigation section of this label.
Precautions: Garlic Response to Preemergence Applications of BLASTWAVE 480 SC: Following a preemergence application of BLASTWAVE 480 SC, a chlorotic band around some of the leaves may be observed after the first irrigation (or rainfall) following garlic emergence.		

Transplanted Garlic: Postemergence Application Immediately after Planting		
Weed Control	Rate (per/acre)	Specific Use Directions
Postemergence	up to 1 pint (0.5 lbs AI)	All States Except Northeastern States: Transplanted garlic is most tolerant of a postemergence application immediately after transplanting. An application of up to 1 pint (0.5 lbs of active) per acre may be made within two days after transplanting. If less than 1 pint (0.5 lbs of active) per acre is applied, a second application can be made two weeks or more after transplanting. DO NOT exceed the maximum use rate of 1 pint (0.5 lbs of active) per acre of BLASTWAVE 480 SC per year as a result of multiple applications.
Postemergence	1 - 2 fl oz (0.03 - 0.06 lbs AI)	Northeastern States, including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Multiple treatments at 1 to 2 fl oz per acre (0.03-0.06 lbs of active) may be applied up to a maximum of 1 pint (16 fl oz) per acre (0.5 lbs of active) per year.

Key Weeds Controlled:

canarygrass (annual) eveningprimrose, cutleaf groundsel, common mallow, little (malva) nightshade, black pigweed, prostrate [†] pigweed, redroot [†]	puncturevine purslane, common [†] rocket, London sage, lanceleaf shepherdspurse [†] sowthistle, annual
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[†] Key weeds controlled at specified rates in Northeastern States.

Garlic - Crop-Specific Precaution (Postemergence Application):
Postemergence applications of BLASTWAVE 480 SC may cause chlorotic leaf banding, necrotic lesions, or stunting of the garlic plants. Symptoms may be more severe if garlic emerged under cool, wet, overcast, or foggy weather. These conditions are temporary and should not affect the vigor or development of garlic plants.

Garlic - Crop-Specific Restrictions (Applicable to All Methods of Application):	
- In all states except Northeastern states, DO NOT apply until direct seeded garlic plants have two (2) fully developed true leaves. In the Northeastern states, DO NOT apply until direct seeded garlic plants have three (3) fully developed true leaves. Application made prior to the specified growth stage may result in serious crop injury. DO NOT apply more than 1 pint (0.5 lbs of active) per acre in a single application. DO NOT apply more than a total of 1 pint (0.5 lbs. active) per acre of BLASTWAVE 480 SC per year as a result of multiple applications. DO NOT make more than 2 applications per acre per year when using reduced application rates. DO NOT make follow up applications within 8 weeks of previous application DO NOT apply within 60 days of harvest. - In direct seeded garlic (except in California), DO NOT apply BLASTWAVE 480 SC as a preemergence treatment. - Use only on dry bulb garlic. DO NOT apply to garlic grown for seed. - For weed control in Garlic, DO NOT mix BLASTWAVE 480 SC with oils, surfactants, liquid fertilizers. DO NOT apply to garlic plants that are under stress due to drought, flooding, excessive fertilizer or soil salts, storage conditions, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects, nematodes or diseases.	

GRAPES (Non-Dormant Application) (California Only)

BLASTWAVE 480 SC may be applied as a directed spray or, for supplemental preemergence weed control, through low-volume sprinkler (micro-sprinkler) or drip irrigation systems for control or suppression of listed broadleaf weeds in non-dormant grapes (raisin and wine grapes only). **BLASTWAVE 480 SC** may also be applied to all grapes (raisin, table, and wine) as a dormant season application. Refer to Treefruit/Nut/Vine Crops (Dormant Application) section above for use directions for dormant season application to grapes.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	1 (0.5 lbs AI)	BLASTWAVE 480 SC may be applied preemergence or postemergence to weeds either as a directed spray in a minimum spray volume of 20 gallons per acre or through low-volume sprinkler (micro sprinkler) or drip irrigation systems. Repeat applications may be required. Applications may be made from completion of bloom up to 14 days before to harvest. When applied as a postemergence directed spray, add 1 quart 80% active nonionic surfactant cleared for application to growing crops per 100 gallons of spray. Direct sprays to the soil and the base of vines.
Postemergence	0.5 - 1 (0.25 - 0.5 lbs AI)	
Tank Mixing: When applied as a directed postemergence spray using ground equipment, BLASTWAVE 480 SC may be applied in tank mix with paraquat or glyphosate in a minimum spray volume of 10 gallons per acre. Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for		

use and precautionary statements of each product in the tank mixture.

Chemigation: Follow chemigation instructions in Product Use Information section.

- **Low Volume Sprinkler (Microsprinkler) and Drip (Trickle) Irrigation:** Apply only through low-volume sprinkler or drip systems designed to uniformly distribute irrigation water beneath the canopy. Meter **BLASTWAVE 480 SC** at a continuous rate during the middle 1/3 of the irrigation period and discontinue application during the final 1/3 of the irrigation period to ensure proper flushing of the irrigation system. Use of **BLASTWAVE 480 SC** through low-volume sprinklers or drip emitters helps to reduce the "ring effect" of weed escapes in areas around sprinklers or emitters where previously applied broadcast or directed treatments begin to break down.

Precautions:

- **Crop Tolerance:** The use of **BLASTWAVE 480 SC** may result in varying degrees of injury to non-dormant grapes. Grape foliage will typically exhibit injury symptoms from direct or indirect (spray drift, soil contact) exposure. This injury may result in necrosis, reddening, cupping or crinkling of grape leaves. The grape plant will continue to grow normally. Grape leaves that are immature or expanding at the time of contact with **BLASTWAVE 480 SC** are the most susceptible to foliage injury. Grapes may exhibit some small blemishes (spots or flicks) on the fruit.

Crop-Specific Use Restrictions:

- **DO NOT** apply more than 1 pint (0.5 lbs of active) per acre in a single application.
- **DO NOT** apply more than 3 pints (1.5 lbs. of active) per acre per year as a result of multiple applications in any given area (broadcast, banded, or within the wetted area of the low-volume sprinkler or drip irrigation system).
- **BLASTWAVE 480 SC** is phytotoxic to plant foliage. Avoid drift to all other crops and nontarget areas. **DO NOT** apply when weather conditions favor drift.
- **DO NOT** make more than 4 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 8 weeks of previous application
- **DO NOT** apply within 14 days of harvest.
- **DO NOT** initiate application of **BLASTWAVE 480 SC** in non-dormant grapes until the completion of the bloom period.
- **DO NOT** apply to grapes established less than 3 years unless vines are either on a trellis wire a minimum of 3 feet above the soil surface or protected by grow tubes.
- **BLASTWAVE 480 SC** must be applied only by ground application equipment of through low-volume sprinkler (micro sprinkler) or drip (trickle) irrigation systems.
- Apply **BLASTWAVE 480 SC** as a non-dormant application to wine grapes or raisin grapes only.

Key Weeds Controlled or Suppressed:

Preemergence	Postemergence
burclover cheeseweed, malva fiddleneck, coast groundsel, common henbit knotweed, prostrate lambquarters, common minerslettuce mustard, black	cheeseweed (malva) fiddleneck, coast groundsel, common henbit minerslettuce morningglory species, annual mustard, black nettle, burning nightshade, black

(continued)

Preemergence	Postemergence
nettle, burning nightshade, black pigweed, redroot purslane, common redmaids rocket, London sowthistle, annual	pigweed, redroot purslane, common redmaids rocket, London sowthistle, annual

SUCKER CONTROL IN NON-DORMANT GRAPES (Washington and Oregon Only) (Grapes for Wine and Processing Only)

Application Timing for Sucker Control	Rate (pint/acre)	Specific Use Directions
Grape suckers less than 12 inches in length.	0.5 -1 (0.25 - 0.5 lbs AI)	Apply BLASTWAVE 480 SC in a three-foot band directed towards to newly emerging suckers at the base of the grapevine. The highest rate and/or a second application may be required to achieve an acceptable level of control/suppression of grape suckers. Avoid spray contact on flowers, grape clusters, or fruit. Use mounted nozzles to deliver the spray solution. Thorough spray coverage of sucker growth is essential for optimal activity. Use a spray volume of 50 or more gallons per acre (broadcast basis).

Tank Mixing: For enhanced postemergence sucker activity, a tank mixture of **BLASTWAVE 480 SC** with either glufosinate or paraquat can be used. Apply at the specified rates and growth stages in a manner describe on the respective labels. Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Precautions:

- The use of **BLASTWAVE 480 SC** may result in varying degrees of injury to non-dormant grapes. Grape foliage will typically exhibit injury symptoms from direct or indirect (spray drift or soil contact) exposure. This injury may result in necrosis, reddening, cupping or crinkling of grape leaves. The grape plant will continue to grow normally. Leaves that are immature or expanding at the time of contact with **BLASTWAVE 480 SC** are the most susceptible to injury. Grape fruit may exhibit some small blemishes (spots or flecks) on the fruit.

Crop-Specific Restrictions:

- DO NOT** apply more than 1 pint (0.5 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- DO NOT** apply more than (dormant and non-dormant) 3 pints (1.5 lbs. of active) per acre per year as a result of multiple applications in any give area (broadcast or banded).
- DO NOT** make more than 4 applications per acre per year when using reduced application rates.
- DO NOT** make follow up applications within 8 weeks of previous application
- BLASTWAVE 480 SC** must be applied only by ground application equipment.
- Apply **BLASTWAVE 480 SC** as a non-dormant application for sucker control only to wine or processed grapes.
- DO NOT** apply **BLASTWAVE 480 SC** within 60 days of harvest.

GRASSES GROWN FOR SEED (Established Perennial) For use Only in Oregon and Washington and Idaho

Weed Control	Rate (Pint/acre)	Specific Use Directions
Late preemergence to Early postemergence Fine fescues (Chewings, creeping red, and hard types)	0.25 (0.125 lbs AI)	Make a single application of BLASTWAVE 480 SC at 0.25 pints (0.125 lb. ai) per acre per year. The application must be applied before the weed seedlings to be controlled exceed the two-leaf growth stage (Use Period: September 1 to December 15).
Late preemergence to Early postemergence Kentucky bluegrass, tall fescue, orchardgrass, bentgrass, perennial ryegrass	0.25 – 0.75 (0.125 – 0.375 lbs AI)	Apply as a broadcast application in a minimum spray volume of 20 gallons of water per acre. Use conventional ground spray equipment with flat fan spray nozzles at a minimum spray pressure of 30 psi. Spray equipment must be calibrated prior to application. Select an application rate based on soil conditions, weed spectrum, weed stage of growth and/or desired period of residual weed control. The maximum rate of 0.75 pints (0.375 lbs of active) of BLASTWAVE 480 SC may be split, however, the initial application must be applied before the weed (or volunteer grass) seedlings to be controlled exceed the 2-leaf growth stage and no later than December 15. The final application must be completed prior to January 15. A maximum of 0.75 pints (0.375 lbs of active) of BLASTWAVE 480 SC (0.375 lb. active) per acre may be applied per year. Early treatment is important for control of seedling grasses. Apply BLASTWAVE 480 SC at the onset of grass seed germination during the initial fall rains or fall sprinkler irrigation (late preemergence). Application at the 1-leaf growth stage (early postemergence) may provide somewhat better control of volunteer crop seedlings than application at the 2-leaf stage. Ample soil moisture soon after application is required for optimum performance against seedling grasses. BLASTWAVE 480 SC will not control established perennial grasses or seedlings or seedlings of most annual and perennial grasses beyond the six-leaf stage of growth. Applications to seedling grass weeds between the 2- and 6-leaf stage may result in partial control but vary with weed species.

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	Single applications made to seedlings between the 2- and 6-leaf growth stages will cause injury and stunting, but re-growth will usually occur. If seedlings have not died within 3 to 4 weeks after treatment and healthy green regrowth is visible, a second application may be needed. Surfactant - For improved control of emerged weed seedlings, an 80% active nonionic surfactant cleared for application to growing crops may be added at a rate of 0.12% to 0.5% spray volume (1 to 4 pints/100/gal.)
Precautions: Crop Tolerance - The application of BLASTWAVE 480 SC to established perennial grass will result in a chlorosis (yellowing) within two weeks after treatment. These symptoms may be present for up to three months following application. The application of BLASTWAVE 480 SC may also result in a substantial reduction in vegetative growth of perennial grasses during the winter. Leaf chlorosis and reduction of vegetative growth is a typical and normal response, however, the seed yield from healthy, vigorous perennial grasses has not been affected by fall application of BLASTWAVE 480 SC. It is accepted by the grower that conditions under which seed yield may be reduced are not fully understood. Grazing may also magnify crop injury and reduce the seed yield. Crop tolerance to BLASTWAVE 480 SC can be improved by limiting the amount of leaf tissue present on established perennial grasses at time of application by such methods as propane flaming, intensive mechanical clipping (crew cutting), or livestock grazing prior to application. Tank mixtures and/or sequential applications of BLASTWAVE 480 SC with other herbicide products registered for use on grasses grown for seed may result in increased injury or stand loss. If a tank mixture is applied, applications must be made only to healthy, vigorous stands of perennial grasses. The decision to apply a tank mixture containing BLASTWAVE 480 SC is at the sole discretion of the grower and at the grower's risk.	
Crop-Specific Restrictions: • Chemigation: DO NOT apply this product through any type of irrigation system. • DO NOT exceed maximum spray pressure of 60 psi. • BLASTWAVE 480 SC must be applied using ground equipment only. • DO NOT apply more than 0.75 pints (0.375 lb. active) of BLASTWAVE 480 SC broadcast per acre in a single application • DO NOT apply more than one application per year to fine fescues. • DO NOT make more than two applications per year to other grass varieties when using reduced application rates. • DO NOT apply more than 0.75 pints (0.375 lbs of active) of BLASTWAVE 480 SC per acre per year. • DO NOT apply BLASTWAVE 480 SC within 150 days of harvesting grass hay in Oregon or within 365 days of harvesting grass hay in Idaho and Washington. • DO NOT graze fields that have been treated with BLASTWAVE 480 SC within 150 days of treatment in Oregon or within 365 days of treatment in Idaho and Washington as illegal residues may be present in the vegetative foliage.	

Weeds Suppressed, and/or Controlled

BLASTWAVE 480 SC will control or suppress the following weeds and volunteer crops when applied between the onset of germination and the two-leaf seedling growth stage:

Common Name	Scientific Name
Bentgrass	<i>Agrostis species</i>
Bluegrass, Annual	<i>Poa annua</i>
Bluegrass, Kentucky	<i>Poa pratensis</i>
Bluegrass, Roughstalk	<i>Poa trivialis</i>
Brome, California (mountain) [†]	<i>Bromus carinatus</i>
Fescue, Fine (creeping red and Chewings)	<i>Festuca rubra</i>
Fescue, Hard	<i>Festuca longifolia</i>
Fescue, Rattail	<i>Vulpia myuros</i>
Fescue, Tall	<i>Festuca arundinacea</i>
Orchardgrass	<i>Dactylis Glomerata</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Ryegrass, Perennial [†]	<i>Lolium perenne</i>

[†] These species are suppressed but not fully controlled by **BLASTWAVE 480 SC**

GRASSES GROWN FOR SEED (Fall Seeded New Plantings of Perennial Ryegrass and Tall Fescue) For Use only in Oregon

Weed Control	Rate (fl. oz./Acre)	Specific Use Directions
Early postemergence	1 - 1.5 fl. oz. (0.03 - 0.05 lbs AI)	Use BLASTWAVE 480 SC for early postemergence suppression/control of various annual broadleaf weed seedlings in fall seeded perennial ryegrass or tall fescue that has at least 1 to 2 tillers. Applications to seedling plants that have not yet tillered, may result in severe crop injury or stand loss (plant death). Apply a single application of BLASTWAVE 480 SC either alone or tank mixed with ethofumesate. Some temporary crop injury may occur but is typically only a transient effect and not adversely impact yield. Control from the BLASTWAVE 480 SC is primarily directed at emerged seedling broadleaf weeds including speedwell and groundsel, but control or suppression of other species is possible if tank mixed with ethofumesate Apply as a broadcast application in a minimum spray volume of 20 gallons of water per acre. Use conventional ground spray equipment with flat fan spray nozzles at the manufacturer's specified spray pressure. Calibrate spray equipment before each use. Use of Surfactant: An 80 percent active nonionic surfactant cleared for application to growing crops may be added at a rate of 0.12 to 0.5 percent spray volume for improved control of emerged seedlings.

Precautions:

- Crop Tolerance - The application of **BLASTWAVE 480 SC** to fall seeded perennial ryegrass and tall fescue (that have at least 1 to 2 tillers) will result in a chlorosis (yellowing) of the foliage within two weeks after treatment. Some symptoms may be present for up to three months following application. The use of **BLASTWAVE 480 SC** may also result in a substantial reduction in vegetative growth by perennial grasses during the winter. Leaf chlorosis and reduction of vegetative growth is a typical and normal response and seed yield of healthy, vigorous perennial grasses is typically not affected by fall application of **BLASTWAVE 480 SC**. It is accepted by the grower that conditions under which seed yield may be reduced are not fully understood and that a reduction in seed yield may occur. Grazing may also magnify crop injury and reduce the seed yield.
- Overlaps (2X applications) may cause significant crop injury but not result in excessive stand losses if the crop plants are at least 1 to 2 tillers when the applications are made.
- Tank mixtures of **BLASTWAVE 480 SC** with ethofumesate may result in enhanced crop injury. If a tank mixture is to be applied, applications must be made only to healthy, vigorous stands of perennial grasses. The decision to apply a tank mixture containing oxyfluorfen herbicide is at the sole discretion of the grower and at the grower's risk.

Crop-Specific Restrictions:

- **DO NOT** apply to newly planted stands that are under stress from any cause as there is an enhanced opportunity for crop injury to occur
- **Chemigation:** **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** graze fields that have been treated with **BLASTWAVE 480 SC** as illegal residues may be present in the vegetative forage.
- **DO NOT** apply more than 1.5 fluid ounces (0.05 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application.
- **DO NOT** apply more than 1.5 fluid ounces (0.05 lbs of active) of **BLASTWAVE 480 SC** per acre per year.
- **DO NOT** apply more than 2 times per year when using reduced application rates.
- Minimum RTI is 10 weeks.
- **DO NOT** graze livestock in treated fields within 150 days of application.
- **DO NOT** apply within 150 days of harvest.
- **BLASTWAVE 480 SC** must be applied only by ground application equipment.

Weeds Suppressed and/or Controlled:

BLASTWAVE 480 SC will provide control or suppression of the following weeds and volunteer crops when applied between the onset of germination and the two-leaf seedling growth stage.

Common Name	Scientific Name
Groundsel, Common	<i>Senecio vulgaris</i>
Speedwell	<i>Veronica Spp</i>

GUAVA (Bearing and Non-bearing) (For Use Only in Hawaii)

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	2.5 – 4 (1.25 – 2.0 lbs AI)	Preemergence or Postemergence: In established guava plantings, apply preemergence or postemergence to weeds. Increase the spray volume to ensure adequate coverage in high densities of emerged weeds or heavy trash. Minimize contact with guava plants by directing the spray to the soil surface. Spray shields are suggested to minimize spray contact in young plantings.
Postemergence	0.5 – 4 (0.25 – 2.0 lbs AI)	For broader spectrum postemergence control of grass and broadleaf weeds, BLASTWAVE 480 SC may be applied in tank mix combination with paraquat or glyphosate. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
Precautions: - Prevent direct spray or drift from contacting green stems, fruit or foliage, as injury may result. - Alone or in tank mix combination, BLASTWAVE 480 SC must be applied to only healthy growing trees. - Application of BLASTWAVE 480 SC must be made only after new foliage growth has hardened off.		
Crop-Specific Restrictions: DO NOT apply more than 4 pints (2.0 lbs. of active) per acre of BLASTWAVE 480 SC in a single application DO NOT apply more than 8 pints (4.0 lbs. of active) per year. DO NOT make more than 4 applications per acre per year when using reduced application rates. DO NOT make follow up applications within 8 weeks of previous application DO NOT apply BLASTWAVE 480 SC within 1 day of harvest.		

Key Weeds Controlled:

Preemergence	Postemergence
ageratum buttonweed crotalaria purslane, common spurge, garden	purslane, common spurge, garden

HORSERADISH

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	1 (0.5 lbs AI)	Apply BLASTWAVE 480 SC after the horseradish roots have been planted but prior to emergence of new horseradish leaves. Emerged leaves that receive direct or indirect spray (drift) contact will be injured. If necessary, cultivate before application to destroy germinated weeds.
Crop-Specific Restrictions: - DO NOT apply more than 1 pint (0.5 lbs. of active) of BLASTWAVE 480 SC per acre per year. - DO NOT apply more than 1 pint (0.5 lbs active) per acre in a single application. - DO NOT make more than one application per year. - DO NOT apply within 60 days of harvest. - DO NOT apply BLASTWAVE 480 SC to horseradish plantings that have been weakened or stressed due to unfavorable temperature conditions, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.		

Key Weeds Controlled:

lambquarters, common pigweed, redroot purslane, common	shepherdspurse smartweed, pennsylvania
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JOJOBA

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 3 (1.0 - 1.5 lbs AI)	Initial application may be made when jojoba plants have reached a height of 6 inches or more. Use sufficient spray volume to ensure thorough coverage of dense weed growth. Direct sprays to the base of jojoba plants to avoid possible phytotoxicity to foliage. Spray shields are suggested for use in young plantings. Use higher rate in rate range for extended residual preemergence weed control. Make follow-up applications as necessary to maintain weed control. For early postemergence control of susceptible seedling weeds (less than 8 inches tall) apply BLASTWAVE 480 SC at the rate of 2 pints acre (1.0 lbs of active) per. BLASTWAVE 480 SC may be applied at the rate of 3 pints (1.5 lbs active) per acre for postemergence control of weeds up to 12 inches tall. For optimum residual control, apply during the fall or winter months. Control may be unsatisfactory for weeds greater than 12 inches tall.
Precautions: - Avoid direct spray or drift contact with jojoba flowers or buds as severe injury may result. - Over-the-top applications may cause burning, crinkling or bronzing of jojoba foliage, particularly to the youngest leaves, flowers, or buds present at the time of application.		
Crop-Specific Restrictions: DO NOT apply more than 3 pints (1.5 lbs. of active) per acre per year.		

(continued)

- **DO NOT** apply more than 3 pints (1.5 lbs of active) per acre in a single application.
- **DO NOT** apply more than 2 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 8 weeks of previous application
- **DO NOT** apply within 30 days of harvest.

Key Weeds Controlled:

Premergence	Postemergence
burclover fiddleneck, coast filaree, broadleaf filaree, redstem filaree, whitestem henbit groundsel, common knotweed, prostrate lambsquarters, common lettuce, prickly mallow, little (malva, cheeseweed) pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual	fiddleneck, coast filaree, broadleaf ^{††} filaree, redstem ^{††} filaree, whitestem ^{††} groundsel, common [†] henbit mallow, little (malva, cheeseweed) minerslettuce nettle, burning pigweed, redroot [†] redmaids shepherdspurse sowthistle, annual

[†] Highest rate may be required for acceptable postemergence control.

^{††} **BLASTWAVE 480 SC** at the 3-pint rate (1.5 lbs active) will provide control of filaree not exceeding the 4-inch stage. Applications to filaree beyond the 4-inch stage may result in partial control.

MINT (SPEARMINT AND PEPPERMINT TOPS)

Mint (Spearmint and Peppermint Tops) Grown on Mineral Soils		
Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 3 (1.0 - 1.5 lbs AI)	Oregon and Washington (East of Cascades), California, Montana, Idaho, Nevada, South Dakota and Utah: Apply from December through March when mint is dormant. When used postemergence (to weeds), add an 80% active ingredient nonionic surfactant at the rate of one quart per 100 gallons of spray volume and apply before weeds exceed a height of 4 inches. Late winter applications will provide maximum activity on summer weeds, but summer grass control may be inconsistent. For best results, fall-plowed fields must be harrowed to provide a smooth surface for application. In furrow-irrigated fields, corrugating must be done prior to application. Corrugating or harrowing will result in disturbance of treated soil or movement of untreated soil into treated areas, resulting in poor weed control.

(continued)

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	1 - 1.5 (0.5 - 0.75 lbs Al)	Peppermint Tops (Western Oregon Willamette Valley): Apply BLASTWAVE 480 SC from November through February to dormant peppermint only. Treatments in January or February provide better residual preemergence control of annual broadleaf weeds. Full season weed control must not be expected from this treatment.
Precautions: Application must be made prior to emergence of new spring growth or severe crop injury may result.		
Crop-Specific Restrictions: DO NOT make more than one application of BLASTWAVE 480 SC per year. DO NOT apply more than 3 pints (1.5 lbs of active) per acre in a single application. DO NOT apply more than 3 pints (1.5 lbs. of active) per acre per year. DO NOT apply within 30 days of harvest. - Apply BLASTWAVE 480 SC only to healthy stands of spearmint and peppermint tops. DO NOT apply to spearmint or peppermint tops weakened by disease, drought, flooding, excessive fertilizer, soil salts, previously applied pesticides, nematodes, insects, or winter injury, as severe injury may result. - In the Willamette valley, DO NOT apply BLASTWAVE 480 SC to mint that has been plowed.		

Key Weeds Controlled:

bedstraw, catchweed † bluegrass, annual fixweed groundsel, common lambsquarters, common lettuce, prickly (china lettuce) mustard, blue (purple mustard) mustard, tumble (Jim hill mustard) nightshade, hairy	† oats, wild orach, red pepperweed, yellowflower pigweed, redroot † ryegrass, Italian shepherdspurse sowthistle, annual tansymustard thistle, Russian
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† Control of annual grasses is best obtained when **BLASTWAVE 480 SC** is applied prior to emergence.

Postemergence control of winter annual grasses is generally unsatisfactory if applications are made after the 1 to 2-leaf stage.

Mint (Spearmint and Peppermint Tops) Grown on Muck Soils: For Use Only on Mint Grown in Indiana, Michigan, Montana, North Dakota, South Dakota, and Wisconsin		
Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 3 (1.0 - 1.5 lbs of Al)	Note: Use directions in this section apply only to spearmint and peppermint grown on muck soils (organic matter content of 20% or greater). When used postemergence (to weeds), add an 80% active ingredient nonionic surfactant at the rate of one quart per 100 gallons of spray volume and apply before weeds exceed a height of 4 inches.
Precautions: Application must be made prior to emergence of new spring growth or severe crop injury may result.		

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Crop-Specific Restrictions:

- **DO NOT** make more than one application of **BLASTWAVE 480 SC** per year.
- **DO NOT** apply more than 3 pints (1.5 lbs of active) per acre in a single application.
- **DO NOT** apply more than 3 pints (1.5 lbs. of active) per acre per year
- **DO NOT** apply within 180 days of harvest
- To avoid excessive crop injury, **DO NOT** apply within 4 days of planting (sprigging) spearmint or peppermint.
- Apply **BLASTWAVE 480 SC** only to healthy spearmint or peppermint tops. **DO NOT** apply to spearmint or peppermint tops that has been weakened by disease, nematodes, soil insects, or winter injury, as severe injury may result.

Key Weeds Controlled:

Knotweed, prostrate
pigweed, redroot
purslane, common

NON-CROP USE

(Non-Food-Producing, Non-Cultivated Agricultural or Non-Agricultural Areas, including Highway and Utility Rights-of- Way, Industrial Sites, Tank Farms, Storage Areas, Airports, Fencerows, and Farmsteads)

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	2.5 - 4 (1.25 - 2.0 lbs of AI)	Preemergence: Use higher rate in rate range for longer residual control.
Postemergence	1 - 4 (0.5 - 2.0 lbs of AI)	Postemergence: Use the lower rate in the rate range for control of susceptible weeds in the early postemergence stage, less than 4 inches tall. Use the higher rate for weeds up to 12 inches tall. Application to weeds beyond the 4-inch stage may result in partial control.

Tank Mixing: Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

- **Preemergence:** For broader-spectrum residual preemergence weed control, **BLASTWAVE 480 SC** may be applied in tank mix combination diuron or simazine.
- **Postemergence:** For additional postemergence control of susceptible grass and broadleaf weeds, **BLASTWAVE 480 SC** may be applied in tank mix combination with paraquat or glyphosate.

Site-Specific Restrictions:

- **DO NOT** feed or allow animals to graze on any areas treated with **BLASTWAVE 480 SC**.
- **DO NOT** apply more than 8 pints (4.0 lbs of active) per acre per year.
- **DO NOT** apply more than 4 pints (2.0 lbs. of active) per acre in a single application.
- **DO NOT** make more than 4 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 8 weeks of previous application

Key Weeds Controlled:

Preemergence	Postemergence
burclover cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree, redstem groundsel, common henbit knotweed, prostrate lambsquarter, common lettuce, prickly pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual	cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree, redstem groundsel, common henbit minerslettuce nettle, burning pigweed, redroot purslane, common redmaids shepherdspurse sowthistle, annual

ONIONS

Cultural Considerations: For maximum preemergence activity, the soil surface should be smooth and free of excessive trash (clippings, plant residues, etc.). Following application, cultural practices that result in redistribution or disturbance of the soil surface or move untreated soil into treated areas will reduce weed control. For best results, make applications to established beds that are left undisturbed during the time period for which weed control is desired.

Direct Seeded Onions: Postemergence Application		
Weed Control	Rate/Acre	Specific Use Directions
Postemergence	1 - 2 fl oz (0.03 - 0.06 lbs AI)	Northeastern States Including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Apply BLASTWAVE 480 SC at 1 to 2 fl oz (0.03 - 0.06 lbs of active) per acre to seeded onions that have at least 3 true leaves using ground equipment. Multiple treatments at 1 to 2 fl oz (0.03 - 0.06 lbs of active) per acre may be applied up to a maximum of 1 pint (16 fl oz) (0.5 lbs of active) per acre per year. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing.
Postemergence	0.25 - 0.5 pint (0.125 - 0.25 lbs AI)	Western States Including Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah and Washington: Apply BLASTWAVE 480 SC at 0.25 to 0.5 pint (0.125 - 0.25 lbs of active) per acre to seeded onions that have at least 2 true leaves using ground equipment. Multiple treatments at 0.25 to 0.5 pint (0.125 - 0.25 lbs of active) per acre may be applied up to a maximum of 1.25 pints (0.625 lbs of active) per acre per year. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing.

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Weed Control	Rate/Acre	Specific Use Directions
Postemergence	0.25 pint (0.125 lbs AI)	All Other States: Apply BLASTWAVE 480 SC at 0.25 pint per acre to seeded onions that have at least 2 true leaves using ground equipment. Multiple treatments at 0.25 pint (0.125 lbs of active) per acre may be applied up to a maximum of 1 pint (0.5 lbs of active) per acre per year. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing.
Postemergence	(see above)	Sprinkler Irrigation - All Except Northeastern States (Center Pivot, Portable Lateral or Solid Set): Apply BLASTWAVE 480 SC at the specified broadcast application rate using sufficient irrigation to wet soil to a depth of 2 inches. Follow the application directions and precautions for "Sprinkler Chemigation" given in the Chemigation section of this label.

Transplanted Onions: Application Immediately before Planting		
Weed Control	Rate (per/acre)	Specific Use Directions
Preemergence Postemergence	0.5 - 1 pint (0.25 - 0.5 lbs AI)	Pre-transplant Application (Not for Use in Northeastern States or Western States: BLASTWAVE 480 SC may be applied as a broadcast or band application after completion of tillage operations, but before transplanting of onion plants. Transplanting must be accomplished with a minimum of soil disturbance and, for optimum weed control, soil surfaces must be left undisturbed after transplanting for the period for which weed control is desired. However, timely cultivation after weed emergence will assist in weed control. If less than 1 pint per acre was applied as a pre-transplant application, postemergence applications may be made as instructed for seeded onions.

Transplanted Onions: Application Immediately after Planting		
Application Timing for Target Weeds	Rate (per/acre)	Specific Use Directions
Preemergence	up to 1 pint (0.5 lbs AI)	All States Except Northeastern States: Transplanted onions are most tolerant of a postemergence application immediately after transplanting. An application of up to 1 pint (0.5 lbs of active) per acre may be made within two days after transplanting. If less than 1 pint (0.5 lbs of active) per acre is applied, a second application can be made two weeks or more after transplanting.
	1 - 2 fl oz (0.003 - 0.006 lbs AI)	Northeastern States including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Multiple treatments at 1 to 2 fl oz (0.003 - 0.006 lbs of active) per acre may be applied up to a maximum of 1 pint (16 fl oz) (0.5 lbs of active) per acre per year.

Onions - Use Precautions (Applicable to All Areas and Methods of Application):

- **BLASTWAVE 480 SC** can cause necrotic lesions, twisting, pigtailings or stunting of the onion plants. Injury will be more severe if applications are made immediately following or during cool, wet weather and/or if applications are made prior to the specified onion growth stage of the onion plants as specified in Specific Use Directions.
- For Arizona, California, Idaho, Oregon, New Mexico, Nevada, Utah and Washington only, tank mixtures of **BLASTWAVE 480 SC** with oils, surfactants, liquid fertilizers or other pesticides may be made but could result in unexpected results including enhanced crop response or injury.

Onions - Crop-Specific Restrictions (Applicable to All Areas and Methods of Application):

- In all states except Northeastern states, **DO NOT** apply until direct seeded onion plants have at least two (2) fully developed true leaves. In the Northeastern states, **DO NOT** apply until direct seeded onion plants have at least three (3) fully developed true leaves. Application made prior to the specified growth stage may result in serious crop injury.
- **DO NOT** apply more than 1 pint (0.5 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- **DO NOT** apply more than a total of 1 pint (0.5 lbs. of active) per acre of **BLASTWAVE 480 SC** per year as a result of multiple applications.
- **DO NOT** make more than 4 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 8 weeks of previous application
- **DO NOT** apply within 45 days of harvest.
- **DO NOT** apply **BLASTWAVE 480 SC** as a preemergence treatment to direct seeded onions.
- Use only on dry bulb onions.
- **DO NOT** apply to onions grown for seed, except as instructed in separate use directions.
- See the Inherent Risks of Use section of the Terms and Conditions of Use at the end of the label for more information.
- **DO NOT** apply to onion plants that are under stress due to drought, flooding, excessive fertilizer or soil salts, storage conditions, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects, nematodes or diseases.

Key Weeds Controlled:**Postemergence**

canarygrass (annual)
eveningprimrose, cutleaf ^(a)
groundsel, common
mallow, little (malva)
nightshade, black
pigweed, prostrate ^(b)
pigweed, redroot ^(a,b)
puncturevine
purslane, common ^(a,b)
rocket, London
sage, lanceleaf
shepherdspurse ^(b)
sowthistle, annual

(a) Weeds controlled when applied as a pre-transplant application. In addition, **BLASTWAVE 480 SC** at the rate of 0.5 to 1 pint per acre will provide control/suppression of carpetweed, Pennsylvania smartweed, galinsoga, common lambsquarters, and wild mustard. Applications of **BLASTWAVE 480 SC** to muck soils may result in partial control or suppression of the weeds listed.

(b) Specific weeds controlled at rates specified for use in northeastern states (see DOSAGE section).

ONIONS GROWN FOR SEED

Weed Control	Rate (per/acre)	Specific Use Directions
Preemergence	1 fl oz (0.003 lbs AI)	Northeastern States including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont: Multiple treatments at 1 fl oz (0.003 lbs of active) per acre may be applied up to a maximum of 1 pint (16 fl oz) (0.5 lbs of active) per acre pre year. Prior to initial treatment, seeded onions must have at least four (4) true leaves. Multiple treatments at the aforementioned rate may be applied.
Preemergence	up to 0.25 pint (0.125 lbs AI)	All other States: Apply BLASTWAVE 480 SC at up to 0.5 pint (0.125 lbs of active) per acre to seeded onions that have at least three (3) true leaves. Multiple treatments at 0.25 pint (0.125 lbs of active) per acre may be applied up to a maximum of 1 pint (0.5 lbs of active) per acre per year. For optimum postemergence control, apply when susceptible weeds are in the 2 to 4-leaf stage and actively growing. Sprinkler Irrigation - Portable Lateral or Solid Set: Apply BLASTWAVE 480 SC at the specified broadcast application rate using sufficient irrigation to wet soil to a depth of 2 inches. Follow the application directions and precautions for "Sprinkler Chemigation" given in the Chemigation section of this label.

Use Precautions:

- **Notice:** Some varieties or inbred lines of onions may be more susceptible to **BLASTWAVE 480 SC**. Care must be taken to ensure that the particular onion variety or line being grown is tolerant to **BLASTWAVE 480 SC**. It is suggested that all onion varieties or lines be tested in limited areas to ensure an adequate level of crop tolerance prior to an application for postemergence weed control.
- **BLASTWAVE 480 SC** can cause necrotic lesions, twisting, pigtail or stunting of the onion plants. Injury will be more severe if applications are made immediately following or during cool, wet weather and/or if applications are made prior to the specified onion growth stage of the onion plants as specified in Specific Use Directions.

Crop-Specific Restrictions:

- In all states, **DO NOT** apply **BLASTWAVE 480 SC** until the onions have reached the minimum leaf stage specified. Application prior to the specified stage of development may result in serious injury.
- **DO NOT** apply more than 0.25 pints (0.125 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- **DO NOT** apply more than a total of 0.5 pint (0.25 lbs. of active) per acre of **BLASTWAVE 480 SC** during one year.
- **DO NOT** make more than 2 applications per acre per year.
- **DO NOT** make follow up applications within 8 weeks of previous application

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- **DO NOT** apply within 60 days of harvest.
- For seeded onions, **DO NOT** apply **BLASTWAVE 480 SC** with oils, surfactants, liquid fertilizers or other pesticides.
- **DO NOT** apply to onion plants that are under stress due to drought, flooding, excessive fertilizer or soil salts, wind injury, hail, frost damage, injury from previously applied pesticides, or injury due to insects or diseases.

Key Weeds Controlled:

Postemergence
canarygrass (annual) eveningprimrose, cutleaf groundsel, common mallow, little (malva) nightshade, black pigweed, prostrate [†] pigweed, redroot [†] puncturevine purslane, common [†] rocket, London sage, lanceleaf shepherdspurse sowthistle, annual

[†] Specific weeds controlled at rates specified for use in northeastern states (see DOSAGE section).

PAPAYA (For Use Only in Hawaii)

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 (1.0 lbs AI)	The initial application must occur no sooner than 4 months after transplanting or 6 months after direct seeding, and after the papaya has reached a minimum height of 4 feet. Applications may be repeated at approximate 4-month intervals. Apply preemergence or postemergence to weeds. Increase the spray volume to assure adequate coverage of dense growth of emerged weeds. BLASTWAVE 480 SC must be applied as a directed spray to the orchard floor beneath the papaya plants. Accurate, uniform placement of BLASTWAVE 480 SC is essential for effective weed control and to minimize crop injury. BLASTWAVE 480 SC must be applied using rigid precision ground sprayer equipment. Postemergence applications may be made up to the 4 leaf stage of weed growth.
Crop-Specific Restrictions: · DO NOT apply more than 2 pints (1.0 lbs. of active) of BLASTWAVE 480 SC broadcast per acre in a single directed spray · DO NOT apply more than 6 pints (3.0 lbs. of active) broadcast per acre per year as a result of multiple applications. · DO NOT make more than 3 applications per acre per year. · DO NOT make follow up applications within 8 weeks of previous application		

- **DO NOT** apply **BLASTWAVE 480 SC** within 1 day of harvest.
- **DO NOT** allow the herbicide solution, spray, drift or mist to contact green bark, stems, fruit or foliage as injury may result.
- **DO NOT** use **BLASTWAVE 480 SC** on papaya plantings that are weak, or under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.

Key Weeds Controlled:

amaranth, spiny
purslane, common
spurge, garden

ROSES: FIELD-GROWN, ESTABLISHED PLANTINGS (For Distribution and Use Only in the State of California)

BLASTWAVE 480 SC may be used as a post-directed application for control of certain broadleaf weeds in well-established rose plantings after bud grafted canes are at least 18-inches in length.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	1 to 2 pints (0.5 - 1.0 lbs AI)	For optimum preemergence weed control, the soil surface must be smooth and free of excessive trash (clippings, plant residues, etc.). Following application, cultural practices which result in redistribution or disturbance of the soil surface or move untreated soil into treated areas will reduce weed control.
Postemergence	1 to 2 pints (0.5 - 1.0 lbs AI)	The lower rate is specified for the control of susceptible seedling weeds in the early postemergence stage, before the 4-leaf growth stage. The higher rate is advised for weeds at the 4-leaf growth stage. The addition of a labeled rate of a herbicide adjuvant may assist in spray coverage and postemergence activity. Applications to weeds beyond the 4-leaf growth stage may result in partial control.

Precautions:

- Apply in 25 to 40 gallons of water per broadcast acre. Use a low-pressure sprayer with nozzles directed at the base of rose plants. Use spray shields to avoid spray contact with rose foliage. To minimize spray drift, use the lowest spray pressure suitable for the application equipment.
- **BLASTWAVE 480 SC** must be applied only to roses with canes that are 18 inches or longer. Applications to rose plants with canes less than 18 inches in length may result in severe crop injury. Spray contact with foliage may cause severe crop injury and must be avoided. Leaves that are contacted by the spray will exhibit necrotic spotting and may drop from plant. Splashing rain or irrigation water or excessive soil moisture after application may result in leaf cupping, crinkling, stunting or defoliation.
- **BLASTWAVE 480 SC** is phytotoxic to plant foliage. Avoid drift to nontarget areas. **DO NOT** apply when weather conditions favor drift.

- When applied as directed, field-grown roses are resistant to **BLASTWAVE 480 SC**, but this has not been evaluated on all varieties, biotypes and cultivars of roses under all possible growing conditions. The user must exercise caution with this product. Until familiar with results under current growing conditions, limit application of this product to a few plants in a small area to determine plant tolerance and potential for injury before initiating large-scale applications.
- Tank mixtures of **BLASTWAVE 480 SC** with oils, liquid fertilizers or other pesticides may increase the potential for crop injury and are the responsibility of the user.

Use Restrictions:

- DO NOT** apply more than 2 pints (1.0 lbs of active) of **BLASTWAVE 480 SC** per acre in a single application
- DO NOT** apply more than 4 pints (2.0 lbs of active) per acre per year.
- DO NOT** make more than 2 applications per acre per year
- DO NOT** make follow up applications within 8 weeks of previous application
- DO NOT** apply **BLASTWAVE 480 SC** in enclosed greenhouse or lathhouse structures.
- DO NOT** feed or graze animals on areas treated with **BLASTWAVE 480 SC**
- BLASTWAVE 480 SC** is phytotoxic to plant foliage. **DO NOT** apply when weather conditions favor drift to non-target areas.
- DO NOT** apply **BLASTWAVE 480 SC** to rose plantings that are weak, or under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.
- DO NOT** apply this product to roses through any type of irrigation system.

Weeds Controlled

Pre-emergence	Postemergence:
Little mallow (cheeseweed; <i>Malva parviflora</i>) Field bindweed (annual morningglory; <i>Convolvulus arvensis</i>) Morningglory, ivyleaf (<i>Ipomoea hederacea</i>) Nightshade, black (<i>Solanum nigrum</i>) Nightshade, hairy (<i>Solanum physalifolium</i>) Nodding beggarticks (<i>Bidens spp.</i>) Redroot pigweed (<i>Amaranthus retroflexus</i>)	Little mallow (cheeseweed; <i>Malva parviflora</i>) Field bindweed (annual morningglory; <i>Convolvulus arvensis</i>) Morningglory, ivyleaf (<i>Ipomoea hederacea</i>) Nightshade, black (<i>Solanum nigrum</i>) Nightshade, hairy (<i>Solanum physalifolium</i>) Redroot pigweed (<i>Amaranthus retroflexus</i>)

SOYBEANS (Not for use in California)

SOYBEANS - EARLY PREPLANT APPLICATION IN CONSERVATION TILLAGE SYSTEMS		
Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	0.75 - 1.5 (0.375 - 0.75 lbs AI)	Early Preplant Application: Surface apply BLASTWAVE 480 SC to the stale seedbed approximately 14 days before planting conservation tillage soybeans for postemergence and preemergence residual broadleaf control. Use a spray volume of 20 or more gallons per acre and increase the spray volume if growth of existing weed is dense. BLASTWAVE 480 SC at 1 to 2 pints provides early season suppression of annual grasses but must not be relied upon as a basic grass herbicide. A planned program utilizing herbicides registered for early preplant, preemergence or postemergence grass control in soybeans is necessary. Use of ridge or slot planter or a similar planting implement that causes minimal soil disturbance is advised. Movement or redistribution of surface soil will reduce herbicidal effectiveness.

SOYBEANS: NO-TILL (Double-Crop)		
Application Timing For Target Weeds	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	0.25 - 1 (0.125 - 0.5 lbs AI)	Preemergence Application to Soybeans: Applied preemergence, BLASTWAVE 480 SC provides postemergence and residual preemergence control of susceptible broadleaf weeds. Apply BLASTWAVE 480 SC within oneday after planting. Later applications may result in severe crop injury. Apply in a minimum spray volume of 20 gallons per acre and increase spray volume if growth of existing weeds is dense.
Tank Mixing: For enhanced postemergence control of existing grass and broadleaf weeds, BLASTWAVE 480 SC may be tank mixed with paraquat or glyphosate. For extended residual control of annual grassed no-till soybeans, BLASTWAVE 480 SC may also be tank mixed with a residual grass herbicide. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.		

SOYBEANS: NO-TILL (Double-Crop)		
Application Timing For Target Weeds	Rate (pint/acre)	Specific Use Directions
Postemergence	0.5 (0.25 lbs AI)	Postemergence Directed Application: BLASTWAVE 480 SC may be applied as a post-directed application. Optimum control is achieved when BLASTWAVE 480 SC is applied to seedling weeds not exceeding 4 true leaves (not counting cotyledon leaves) and actively growing. Use of an 80% nonionic surfactant cleared for application to growing crops at the rate of 2 pints per 100 gallons of spray is required whenever postemergence weed control is desired. For Postemergence application, Soybeans must be a minimum 8 inches tall. Use a minimum of 2 flat fan nozzles per row. Use branch lifters or shields to prevent excessive spray contact to the soybean plants. DO NOT use hollow cone nozzles.

Soybeans: Grown Under Conventional Tillage Systems		
Application Timing For Target Weeds	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	0.5 - 0.75 (0.25 - 0.375 lbs AI)	Preemergence Application to Soybeans: BLASTWAVE 480 SC provides preemergence control of susceptible broadleaf weeds. Apply BLASTWAVE 480 SC within one day after planting. Later applications may result in severe crop injury. Apply in a minimum spray volume of 20 gallons per acre and increase spray volume if growth of existing weeds is dense. The 0.75 pints (0.375 lbs of active) per acre rate will assist in early season annual grass control but must not be relied upon as a basic grass herbicide. BLASTWAVE 480 SC may also be applied as a preemergence application following a preplant incorporated grass herbicide treatment.
Preemergence Tank Mixes (To Control Additional Grass and Broadleaf Weeds): Apply preemergence tank mixes of BLASTWAVE 480 SC within one day after planting. Later applications may result in severe crop injury. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. • BLASTWAVE 480 SC at 0.3 to 0.75 pints (0.15 - 0.375 lbs of active) per acre may be applied preemergence to soybeans in tank mix with Metolachlor or s-Metolachlor Herbicide. BLASTWAVE 480 SC may be applied alone as a preemergence application following a preplant incorporated grass herbicide application or as a tank mix in a preemergence application with herbicides. Refer to the label of tank mix product for additional weeds controlled. • BLASTWAVE 480 SC at 0.3 to 0.4 pints (0.15 - 0.2 lbs of active) per acre may be applied preemergence to soybeans in tank mix with clomazone		
Postemergence	0.5 (0.25 lbs AI)	Postemergence Directed Sprays: BLASTWAVE 480 SC may be applied as a post-directed application at 0.5 pint (0.25 lbs of active) per acre. Optimum control is achieved when weeds not exceed 4 true leaves and are actively growing (DO NOT count cotyledon leaves). Use of an 80% nonionic surfactant cleared for application to growing crops at the rate of 2 pints (1.0 lbs of active) per 100 gallons of spray is required whenever postemergence weed control is desired. For postemergence application, Soybeans must be a minimum 8 inches tall. Use a minimum of 2 flat fan nozzles per row. Use branch lifters or shields to prevent excessive spray contact to the soybean plants. DO NOT use hollow cone nozzles.
Postemergence Tank Mixes: For broader spectrum control or broadleaf weeds, BLASTWAVE 480 SC may be applied in tank mix with 2,4-DB herbicide. Use 0.5 pint of BLASTWAVE 480 SC with specified rate of 2,4-DB per acre. Refer to label of tank mix product for additional weeds controlled. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.		

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Soybeans - Precautions (All Methods and Timings to Soybeans):

- Soybeans are tolerant to preemergence and post-directed applications of **BLASTWAVE 480 SC** at specified rates, however, under certain conditions injury may occur. Heavy splashing rain shortly after crop emergence or cold, wet soil conditions during early growth stages can cause leaf cupping and crinkling. When injury occurs, it is limited to the first few leaves that develop after crop emergence. Soybeans recover from this injury and yields are not adversely affected. Soybeans accidentally sprayed during a post-directed application will exhibit necrotic spotting and injury to the soybean plant. Exercise care to avoid spray contact with the soybean leaves.
- Tank Mixing:** Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Soybeans - Crop-Specific Restrictions:

- DO NOT** apply more than 1.5 pints (0.75 lbs of active) of **BLASTWAVE 480 SC** per acre in a single application
- DO NOT** make more than two applications of **BLASTWAVE 480 SC** per acre per year.
- DO NOT** make follow up applications within 8 weeks of previous application
- DO NOT** apply more than 1 pints (0.5 lbs active) of **BLASTWAVE 480 SC** per acre per year as a result of preemergence application in no-till (double-crop) or conventional till soybeans, or post-directed in conventional till soybeans.
- DO NOT** apply a post-directed application of **BLASTWAVE 480 SC** to soybeans after the initial appearance of blooms.

Key Weeds Controlled (BLASTWAVE 480 SC Alone):

Preemergence	Postemergence
groundcherry, cutleaf† jimsonweed lambsquarters, common nightshade, American black† nightshade, black† pigweed, redroot poinsettia, wild shepherdspurse sida, prickly (teaweed) smartweed, Pennsylvania sowthistle, common† velvetleaf	cocklebur, common croton, tropic groundcherry, cutleaf groundcherry, Wright jimsonweed lambsquarters, common morningglory, annual (up to 6 leaf) mustard, wild nightshade, American black nightshade, black nightshade, hairy pigweed, redroot † poinsettia, wild purslane, common sesbania, hemp shepherdspurse sicklepod†† sida, prickly (teaweed) † smartweed, Pennsylvania velvetleaf

† Multiple applications may be required for acceptable control.

†† Post-direct applications of **BLASTWAVE 480 SC** will kill or suppress seedlings not exceeding the one true leaf stage.

TARO (For Use Only in Hawaii)

For use only to dryland taro grown in Hawaii. Dryland taro is defined as taro grown without irrigation, or by using irrigation practices that do not result in run-off, irrigation return flow, or other loss of irrigation water from the production area. If irrigation is used, the water applied shall not exceed the field capacity of the soil.

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	1 (0.5 lbs AI)	Preemergence to Taro and Weeds: A single application of BLASTWAVE 480 SC at the rate of 1 pint (0.5 lbs of active) per acre may be applied within 1 week after transplanting but prior to emergence of taro plants.
Postemergence	0.5 (0.25 lbs AI)	Postemergence to Taro and Weeds: BLASTWAVE 480 SC may be applied as a post-directed or band application at the rate of 0.5 pint (0.25 lbs of active) per acre. Effective control of succulent weed seedlings in the 2-to 3-leaf stage can usually be obtained. Applications to weeds beyond the 3-leaf stage may result in partial control.

Precautions:

- Accurate, uniform placement of **BLASTWAVE 480 SC** is essential for effective weed control and to minimize crop injury. Taro foliage receiving accidental spray or drift will be injured. **BLASTWAVE 480 SC** must be applied using rigid precision ground sprayer equipment.
- Occasionally, after the use of **BLASTWAVE 480 SC**, spotting, crinkling or flecking may appear on the leaves of the taro. Leaves that receive direct or indirect (drift) spray contact will be injured.

Crop-Specific Restrictions:

- **DO NOT** apply more than 1 pint (0.5 lbs. of active) of **BLASTWAVE 480 SC** broadcast per acre as a single preemergence application.
- **DO NOT** apply more than 0.5 pint (0.25 lbs. of active) of **BLASTWAVE 480 SC** per acre in a single post-direct spray
- **DO NOT** apply more than 1 pint (0.5 lbs. of active) per acre per year as a result of multiple post-directed applications.
- **DO NOT** make more than 2 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 10 weeks of previous application
- **DO NOT** apply more than 2 pints (1.0 lbs of active) of **BLASTWAVE 480 SC** per acre per year as a result of preemergence and post-direct applications.
- **DO NOT** apply **BLASTWAVE 480 SC** within 6 months of harvest of taro (corms, leaves).
- **DO NOT** use **BLASTWAVE 480 SC** on taro plantings that are weak, or under stress due to temperature, disease, fertilizer, nematodes, insects, pesticides, drought or excessive moisture.

Key Weeds Controlled:

amaranth, spiny
purslane, common
spurge, garden

TREEFRUIT/NUT/VINE CROPS, TREE NUTS, GROUP 14 (Dormant Application)

Almond, Apple, Apricot, Avocado, Beechnut, Brazil Nut, Butternut, Cashew, Cherry, Chestnut, Chinquapin, Crab Apple, Date, Feijoa, Fig, Filbert, Grapes, Hickory Nut, Kiwi, Loquat, Macadamia Nut, Mayhaws, Nectarine, Olives, Peach, Pear, Pecan, Persimmon, Pistachio, Plum, Pomegranates, Prune, Quince, and Walnut

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence (broadcast application)	2.5 - 3 (1.25 - 1.5 lbs AI)	Apply BLASTWAVE 480 SC a minimum of 20 gallons of water per acre. Use higher spray volumes to ensure thorough coverage in high densities of emerged weeds or heavy trash. Sprays must be directed to the soil and the base of dormant trees or vines.
(banded application)	2.5 - 3 (1.25 - 1.5 lbs AI)	In California, BLASTWAVE 480 SC may be applied as an over-the-top or directed spray to dormant nonbearing grape plantings. The use of a low-pressure sprayer is suggested. DO NOT apply over-the-top to grape plantings that are under stress due to drought, flooding, excessive fertilizer or soil salts, storage conditions, wind injury, hail, injury from previously applied pesticides, or injury due to insects, nematodes, or diseases, as severe crop injury may result.
Postemergence (broadcast application)	1 - 3 (0.5 - 1.5 lbs AI)	Apply in a spray volume of 40 or more gallons per acre. For optimum control, apply when weeds are at seedling stage of growth.
(banded application)	1 - 3 (0.5 - 1.5 lbs AI)	The lower rate in the rate range (1 pint (0.5 lbs of active) per acre) is required for the control of susceptible seedling weeds in the early postemergence stage up to the 4-leaf stage. Higher rates (up to 3 pints (1.5 lbs of active) per acre) may be used for weeds up to the 6-leaf stage. Applications to weeds beyond the 6-leaf stage may result in partial control.
Tank Mixing: Refer to Mixing Directions section for Tank Mixing Precautions and Restrictions. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply. See labels of tank mix partners to determine suitability and use rates for various crops.		
Postemergence: For broader spectrum postemergence control of listed grass and broadleaf weeds, BLASTWAVE 480 SC may be applied in tank mix with paraquat or glyphosate. These herbicides may also be added to preemergence tank mixes for enhanced control of existing weeds.		
Preemergence: For broad-spectrum preemergence control of susceptible grass and broadleaf weeds in listed tree fruit, nut or vine plantings, BLASTWAVE 480 SC may be applied in tank mix with napropamide.		
Chemigation (All States): For dormant season application using sprinkler (low-volume (micro sprinkler), drip (trickle), and flood (basin) irrigation systems, apply BLASTWAVE 480 SC at the specified rate per acre. Follow applicable directions in the Chemigation section of this label when making applications using irrigation systems.		

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Precautions:

- **BLASTWAVE 480 SC** or any of the combinations specified on this label must be applied to only healthy growing trees or vines.
- Avoid direct plant contact. Direct spray toward the base of tree or vines unless specific use specifications allow over-the-top application.
- In Arizona and California, **BLASTWAVE 480 SC** may be applied during the period following completion of final harvest up to February 15 (February 1st in the Coachella Valley, California). Applications made after these calendar dates, but prior to bud swell, may result in significant crop injury and are the responsibility of the user.
- For banded applications, up to 3 pints (2.0 lbs. of active) per acre of **BLASTWAVE 480 SC** per year may be applied within the treated band.

Crop-Specific Restrictions:

- In all states, unless otherwise specified, **DO NOT** apply **BLASTWAVE 480 SC** during the period between bud swell and completion of final harvest or when fruit/nuts are present. **BLASTWAVE 480 SC** may be applied upon completion of final harvest.
- **DO NOT** apply more than 3 pints (1.5 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- **DO NOT** apply more than a maximum of 3 pints (1.5 lbs. of active) broadcast per acre per year.
- **DO NOT** apply more than 3 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 2 weeks of previous application.
- **DO NOT** apply to grapes or kiwi established less than 3 years unless vines are on a trellis wire a minimum of 3 feet above the soil surface.
- **DO NOT** apply to grapes or kiwi that are not staked or trellised unless vines are free standing.

Key Weeds Controlled (Arizona and California):

Preemergence	Postemergence
burclover cheeseweed (malva) fiddleneck, coast filaree, broadleaf filaree, redstem filaree, whitestem groundsel, common henbit knotweed, prostrate lambsquarters, common lettuce, prickly pigweed, redroot purslane, common redmaids rocket, London shepherdspurse sowthistle, annual	cheeseweed (malva) fiddleneck, coast filaree, broadleaf † filaree, redstem † filaree, whitestem † groundsel, common henbit minerslettuce nettle, burning pigweed, redroot redmaids shepherdspurse sowthistle, annual

† **BLASTWAVE 480 SC** at the 1.5-pint rate will provide control of filaree not exceeding the 4-inch stage. Applications to filaree beyond the 4-inch stage may result in partial control.

Key Weeds Controlled (All Other States Except Arizona and California):

Preemergence	Postemergence
camphorweed cudweed, narrowleaf eveningprimrose, cutleaf † groundcherry, cutleaf jimsonweed lambsquarters, common nightshade, American black nightshade, black pepperweed, Virginia pigweed, redroot poinsettia, wild sida, prickly smartweed, Pennsylvania sowthistle, annual spurge, prostrate spurge, spotted velvetleaf	balsamapple cocklebur, common cudweed, narrowleaf †† eveningprimrose, cutleaf ††† groundcherry, cutleaf groundcherry, Wright jimsonweed lambsquarters, common morningglory, annual nightshade, American black nightshade, black pepperweed, Virginia pigweed, redroot poinsettia, wild purslane, common sesbania, hemp shepherdspurse sida, prickly (teaweed) smartweed, Pennsylvania sowthistle, annual velvetleaf

† Highest rate and/or multiple applications may be required for acceptable control.

†† Maximum 0.5-inch diameter

††† Highest rate and/or multiple applications may be required for acceptable control.

PISTACHIOS WALNUTS ALMONDS (CALIFORNIA AND ARIZONA ONLY) (Non-Dormant Application)

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence	2.5 - 3 (1.25 - 1.5 lbs AI)	Preemergence: For residual weed control of listed weeds.
Postemergence	0.5 - 1 (0.25 - 0.5 lbs AI)	Postemergence (Suppression): Apply to seedling weeds less than 4 inches in height. Repeat applications may be required.
	1 - 3 (0.5 - 1.5 lbs AI)	Postemergence (Cleanup): Contact (postemergence) control for cleanup sprays and preharvest applications. Apply to seedling weeds less than 4 inches in height. Applications to weed seedlings beyond the 4-inch stage may result in partial control.
Tank Mixing: For broader spectrum grass and broadleaf weed control in tree row middles, BLASTWAVE 480 SC may be tank mixed with either paraquat or glyphosate. Refer to Mixing Directions section for Tank Mixing Precautions. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply.		

Chemigation: Follow chemigation instructions in Product Use Information section.

Flood (Basin) Irrigation: For flood (basin) irrigation systems, meter continuously into the water during the entire irrigation period. Best weed control results are obtained when a uniform distribution and flow of irrigation water is maintained over level land. Irrigation water treated with **BLASTWAVE 480 SC** must be contained on the treated area until the water is absorbed by the soil.

Low Volume Sprinkler (Microsprinkler) and Drip (Trickle) Irrigation: Apply only through low-volume sprinkler or drip systems designed to uniformly distribute irrigation water beneath the tree canopy. Applications must be made prior to weed emergence; otherwise postemergence activity may be inconsistent due to uneven coverage. Meter **BLASTWAVE 480 SC** at a continuous rate during the middle 1/3 of the irrigation period and discontinue application during the final 1/3 of the irrigation period to ensure proper flushing of the irrigation system. Use of **BLASTWAVE 480 SC** through low-volume sprinklers or drip emitters helps to reduce the "ring effect" of weed escapes in areas around sprinklers or emitters where previously applied broadcast or directed treatments begin to break down.

Precautions:

- Direct spray toward the base of trees. Avoid direct contact with foliage or nuts.
- **BLASTWAVE 480 SC** must be applied only to healthy growing trees

Crop-Specific Use Restrictions:

- When applied as a non-dormant treatment, **BLASTWAVE 480 SC** can only be applied to pistachio plantings between May and 7 days prior to harvest.
- When applied as a non-dormant treatment, **BLASTWAVE 480 SC** can only be applied to almond plantings between April 1 and September 30 and to walnut plantings between May 1 and September 30.
- **DO NOT** apply **BLASTWAVE 480 SC** within 7 days of harvest of pistachios.
- **DO NOT** apply **BLASTWAVE 480 SC** within 30 days of harvest of almonds.
- **DO NOT** apply **BLASTWAVE 480 SC** within 7 days of harvest of walnuts.
- **DO NOT** apply more than 3 pints (1.5 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application
- **DO NOT** apply more than 3 pints (1.5 lbs. of active) of **BLASTWAVE 480 SC** per acre per year
- **DO NOT** make more than 3 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 2 weeks of previous application

Key Weeds Suppressed and/or Controlled

cheeseweed (malva)	morningglory species, annual
fiddleneck, coast	mustard, black
filaree, broadleaf	nettle, burning
filaree, redstem	pigweed, redroot
filaree, whitestem	purslane, common
	redmaids
	rocket, London
	sowthistle, annual

Additional Weeds Controlled in Tank Mix with Glyphosate or Paraquat

barnyardgrass	horseweed (marestail)
bluegrass, annual	rocket, London
chickweed, common	ryegrass, Italian

ALMONDS- REDUCED PREHARVEST INTERVAL (CALIFORNIA ONLY) Nondormant Application with a 30 to 15 Day PHI

Weed Control	Rate (pint/acre)	Specific Use Directions
Postemergence suppression (seedlings less than 4 inches in height.)	0.25 (0.125 lbs AI)	BLASTWAVE 480 SC provides effective suppression of cheeseweed (Malva), fleabane and marestail (horseweed) as well as other weeds listed below in non-dormant almonds when applied to young broadleaf weed seedlings. For enhanced postemergence activity against these target weeds as well as other weed species, tank mixtures of BLASTWAVE 480 SC with either paraquat or glyphosate may be used to increase the spectrum of weed control by either of these tank mix partners. Compatibility of each mixture must be established before tank mixing and application must be applied by ground equipment. Follow all precautions and restrictions on the labeling of the products to be tank mixed. For summer broadleaf weed control, apply no more than 2.5 pints (1.25 lbs. active) of BLASTWAVE 480 SC per broadcast acre prior to the February 15th cutoff. Then for summer use, apply no more than 0.25 pints (0.125 lbs. active) per broadcast acre up to 30 days before harvest, and no more than 0.25 pints (0.125 lbs. active) per broadcast acre between 30 and 15 days before harvest. For a broader spectrum of grass weeds and broadleaf weeds control in the tree row middles, a tank mixture of BLASTWAVE 480 SC with either paraquat or glyphosate can be used. Read and follow the labeling of either the paraquat or glyphosate pesticide product which is to be tank mixed with BLASTWAVE 480 SC.
Ground Application: Apply a minimum spray volume of 10 gallons of water per acre. Use higher volumes to ensure adequate coverage in high densities of emerged weeds or heavy trash. Use conventional low-pressure ground spray equipment with flat fan spray nozzles at 20 to 40 psi. Position an off-center nozzle at the end of the boom. Spray equipment calibrated carefully before each use. Chemigation Application: Apply this product only through flood (basin) irrigation systems, or low-volume sprinkler (microsprinkler) and drip (trickle) irrigation systems designed to distribute irrigation water beneath the tree canopy. For additional information on these systems, see the APPLICATION THROUGH IRRIGATION SYSTEMS - CHEMIGATION section of this label.		

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Cultural Considerations for All Applications: In order to provide maximum effectiveness of preemergence activity of **BLASTWAVE 480 SC**, the berm or soil surface must be level, smooth, and free of crop or weed trash (decaying leaves, clippings, dead weeds, etc.). Remove leaves and trash by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide applications.

Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of **BLASTWAVE 480 SC**. Cutting water furrows or cultivations that mix untreated soil into treated areas will also reduce the effectiveness of the treatment.

Precautions:

- Apply **BLASTWAVE 480 SC** only to healthy trees.
- Direct spray toward the base of the tree. Avoid direct herbicide contact with foliage and fruit.

Specific Use Restrictions:

- When applied as a non-dormant treatment, **BLASTWAVE 480 SC** can only be applied to almonds between April 1 and September 30.
- **DO NOT** apply more than 0.25 pints (0.125 lb. active) of **BLASTWAVE 480 SC** broadcast per acre in a single application.
- Minimum retreatment interval between applications is 10 weeks.
- In order to use 0.25 pints (0.125 lbs of active) **BLASTWAVE 480 SC** at 15 days before harvest, no more than 2.5 pints (1.25 lbs of active) must have been applied within 60 days of harvest and no more than 0.25 pints (0.125 lbs of active) must have been applied within 30 days of harvest.
- **DO NOT** apply more than 3 pints (1.5 lbs. active) of **BLASTWAVE 480 SC** broadcast per acre in one year.
- **DO NOT** make more than 4 applications per year when using reduced application rates.

Weeds Suppressed and/or Controlled

Cheeseweed (Malva) Fiddleneck, Coast Filaree, Broadleaf Filaree, Redstem Filaree, Whitestem Groundset, Common Henbit Miner's Lettuce	Morningglory Species, Annual Mustard, Black Nettle, Burning Pigweed, Redroot Purslane, Common Redmaids Rocket, London Sowthistle, Annual
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Additional Weeds Controlled in Tank Mix with Glyphosate or Paraquat

Barnyardgrass Bluegrass, Annual Chickweed, Common Fleabane	Horseweed (Marestail) Rocket, London Ryegrass, Italian
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APRICOTS, NECTARINES, OLIVES, PEACHES, PLUMS AND PRUNES (CALIFORNIA ONLY)
Nondormant Application to Apricots, Nectarines, Olives, Peaches, Plums and Prunes in California

Weed Control	Rate (pint/acre)	Specific Use Directions
Postemergence suppression (seedlings less than 4 inches in height.)	0.25 (0.125 lbs AI)	BLASTWAVE 480 SC provides effective postemergence control of cheeseweed (Malva), Fleabane, and Maretail (Horseweed) young broadleaf weed seedlings in non-dormant apricots, nectarines, olives, peaches, plums and prunes. For enhanced postemergence activity against these target weeds as well as other weed species, tank mix BLASTWAVE 480 SC with either paraquat or glyphosate to increase the spectrum of weed control by either of these tank mix partners. Compatibility of each mixture must be established before tank mixing and application must be applied by ground equipment. Follow all precautions and restrictions on the labeling of the products to be tank mixed. Repeat applications may be required. For a broader spectrum of grass weeds and broadleaf weeds control in the tree row middles, a tank mixture of BLASTWAVE 480 SC with either paraquat or glyphosate can be used. Read and follow the labeling of either the paraquat or glyphosate pesticide product which is to be tank mixed with BLASTWAVE 480 SC.
Ground Application: Apply a minimum spray volume of 10 gallons of water per acre. Use higher volumes to ensure adequate coverage in high densities of emerged weeds or heavy trash. Use conventional low-pressure ground spray equipment with flat fan spray nozzles at 20 to 40 psi. Position an off-center nozzle at the end of the boom. Calibrate spray equipment carefully before each use. Chemigation Application: Apply this product only through flood (basin) irrigation systems, or low-volume sprinkler (microsprinkler) and drip (trickle) irrigation systems designed to distribute irrigation water beneath the tree canopy. For additional information on these systems, see the APPLICATION THROUGH IRRIGATION SYSTEMS-CHEMIGATION section of this label. Cultural Considerations for All Applications: In order to provide maximum effectiveness of preemergence activity of BLASTWAVE 480 SC, the berm or soil surface must be level, smooth, and free of crop or weed trash (decaying leaves, clippings, dead weeds, etc.). Remove leaves and trash by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide applications. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of BLASTWAVE 480 SC. Cutting water furrows or cultivations that mix untreated soil into treated areas will also reduce the effectiveness of the treatment. For best results, apply to established berms or soil surfaces that are left undisturbed during the time period for which weed control is desired.		
Precautions: · Apply BLASTWAVE 480 SC only to healthy trees. · Direct spray toward the base of the tree. Avoid direct herbicide contact with foliage and fruit.		

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Specific Use Restrictions

- When applied as a non-dormant treatment, **BLASTWAVE 480 SC** can only be applied to apricots, peaches, nectarines, plums and prunes after May 1. **BLASTWAVE 480 SC** can only be applied as a non-dormant treatment to olives after bloom.
- Minimum retreatment interval between applications is 10 weeks
- DO NOT** apply more than 0.25 pint (0.125 lbs of active) of **BLASTWAVE 480 SC** broadcast per acre per single application during the non-dormant period.
- DO NOT** apply **BLASTWAVE 480 SC** within 14 days of harvest of fruit.
- DO NOT** apply more than 3 pints (1.5 lbs ai) broadcast per acre of **BLASTWAVE 480 SC** per year.
- DO NOT** make more than 4 applications per year when using reduced application rates

WINDBREAKS AND SHELTERBELTS (For Use Only in Minnesota, North Dakota, South Dakota and Wyoming)

Weed Control	Rate (pint/acre)	Specific Use Directions
Preemergence Postemergence	2 - 3 (1.0 - 1.5 lbs AI)	Apply BLASTWAVE 480 SC may be applied as a broadcast, banded or post-directed spray. Preemergence control is most effective when spray is applied to clean, weed-free soil surfaces. Pre-transplant applications must be made after completion of soil preparation but prior to transplanting. Transplanting must be completed with minimal soil disturbance. For optimum weed control results, treated soil surfaces must be left undisturbed during the time period for which weed control is desired. Postemergence Weed Control: For best results, apply before 4-leaf stage for broadleaf weeds or 2-leaf stage for grass weeds. Conifers: BLASTWAVE 480 SC can be applied pre-transplant, post-directed or postemergence (over-the-top) to conifers. Postemergence or post-directed applications may be applied prior to budbreak or after new growth foliage has hardened off and new terminal buds have formed. Deciduous Hardwoods: BLASTWAVE 480 SC has exhibited selectivity to many deciduous species when applied pre-transplant or as a post-directed spray prior to budbreak.

Precautions:

- Important:** Some varieties or cultivars of conifers or deciduous species listed may be susceptible to **BLASTWAVE 480 SC**. Care must be taken to ensure that the particular variety to be sprayed with **BLASTWAVE 480 SC** is tolerant. For unfamiliar species, it is suggested that **BLASTWAVE 480 SC** be tested on a limited number of plants prior to large-scale application.
- Occasionally after the use of **BLASTWAVE 480 SC**, a spotting, crinkling or flecking may appear on the leaves of the deciduous species. Leaves that receive direct or indirect (drift) spray contact will be injured. Deciduous species typically rapidly outgrow these symptoms and develop normally.

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- Application after budbreak may result in injury to deciduous species and is not advised. If non-dormant application is required, apply only after foliage has fully expanded and hardened off. Avoid direct or indirect spray contact with the foliage by applying to the soil surface as a directed spray.
- Apply **BLASTWAVE 480 SC** only to healthy deciduous and/or conifer trees.

Specific Use Restrictions for Shelterbelts:

- **DO NOT** apply more than 3 pints (1.5 lbs. of active) of **BLASTWAVE 480 SC** per acre in a single application
- **DO NOT** apply more than 9 pints (4.5 lbs. of active) per acre per year.
- **DO NOT** make more than 4 applications per acre per year when using reduced application rates.
- **DO NOT** make follow up applications within 8 weeks of previous application.
- **DO NOT** apply **BLASTWAVE 480 SC** to conifers or deciduous trees that have been weakened or under stress from excessive fertilizer or soil salts, disease, nematodes, frost, drought, flooding, previously applied pesticides, soil insects, or winter injury, as severe injury may result.

Key Broadleaf Weeds Controlled:

buckwheat, wild	mustard, wild
burclover	nettle, burning
carpetweed	nightshade, black
dock, curly	nightshade, hairy
groundcherry, cutleaf	oats, wild
groundcherry, Wright	orach, red
groundsel, common	pepperweed, yellow flower
henbit	pigweed, prostrate
jimsonweed	pigweed, redroot
knotweed, prostrate	purslane, common
kochia	rocket, London
ladythumb	shepherdspurse †
lambsquarters, common	smartweed, Pennsylvania
lettuce, prickly	sowthistle, annual
mallow, little	tansymustard
mayweed	thistle, Russian (seedling)
mustard, blue	velvetleaf
mustard, tumble	

† The highest rate or multiple applications may be required for acceptable control.

Key Grasses Controlled:

barnyardgrass	foxtail, giant
bluegrass, annual	goosegrass
crabgrass, large	witchgrass

BLASTWAVE 480 SC may be applied to numerous conifer and deciduous species, including the following:
Conifer Species

Common Name	Scientific Name
douglas-fir	<i>Pseudotsuga menziesii</i>
fir	
grand	<i>Abies grandis</i>
fraser	<i>Abies fraseri</i>
noble	<i>Abies procera</i>
hemlock	
eastern hemlock	<i>Tsuga canadensis</i>
western hemlock	<i>Tsuga heterophylla</i>
pine	
Austrian	<i>Pinus nigra</i>
eastern white	<i>Pinus strobus</i>
jack	<i>Pinus banksiana</i>
Himalayan	<i>Pinus graffithii</i>
loblolly	<i>Pinus taeda</i>
lodgepole	<i>Pinus contorta</i>
longleaf	<i>Pinus palustris</i>
monterey	<i>Pinus radiata</i>
mugo	<i>Pinus mugo</i>
ponderosa	<i>Pinus ponderosa</i>
scotch	<i>Pinus sylvestris</i>
shortleaf	<i>Pinus echinata</i>
slash	<i>Pinus elliotii</i>
Virginia	<i>Pinus virginiana</i>
spruce	
blue	<i>Picea pungens</i>
dwarf Alberta	<i>Picea glauca conica</i>
Norway	<i>Picea abies</i>
Sitka	<i>Picea sitchensis</i>
Arborvitae	<i>Thuja occidentalis</i> <i>Thuja orientalis</i>
juniper	<i>Juniperus chinensis</i> <i>Juniperus horizontalis</i> <i>Juniperus procumbens</i> <i>Juniperus sabina</i> <i>Juniperus scopulorum</i>
red cedar	<i>Juniperus virginiana</i>
Yew	<i>Taxus spp.</i>

Deciduous Hardwood Species

Common Name	Scientific Name
ash	Fraxinus spp.
crabapple	Malus spp.
eucalyptus	Eucalyptus spp.
lilac	Syringa vulgaris
maple, black	Acer nigrum
oak, northern red	Quercus rubra
olive, Russian	Elaeagnus angustifolia
poplar (cottonwood)	Populus spp.
Sweetgum	Liquidambar styraciflua
Sycamore	Platanus occidentalis
walnut, black	Juglans nigra

STORAGE AND DISPOSAL

DO NOT contaminated water, food or feed by storage or disposal

PESTICIDE STORAGE: Keep from Freezing. Store above 32°F

PESTICIDE DISPOSAL: Pesticide Wastes are toxic. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

FOR CONTAINERS LESS THAN OR EQUAL TO 5 GALLONS

Non-refillable plastic container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

FOR CONTAINERS GREAT THAN 5 GALLONS

Non-refillable plastic container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full of water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

TERMS AND CONDITIONS OF USE

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent consistent with applicable law, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

Warranty Disclaimer

Longwind Cropscience USA LLC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. **Longwind Cropscience USA LLC. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.**

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of **Longwind Cropscience USA LLC.** or the seller. To the extent consistent with applicable law, all such risks shall be assumed by buyer. To the extent consistent with applicable law, **Longwind Cropscience USA LLC.** takes no responsibility for unexpected results occurring due to the tank mixing of this product with oils, surfactants, liquid fertilizers or other pesticides.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at **Longwind Cropscience USA LLC.**'s election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used

Longwind Cropscience USA LLC. shall not be liable for losses or damages resulting from handling or use of this product unless

Longwind Cropscience USA LLC. is promptly notified of such loss or damage in writing. To the extent consistent with applicable law, in no case shall **Longwind Cropscience USA LLC.** be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer and Inherent Risks of Use above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of **Longwind Cropscience USA LLC.** or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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